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CONTENTS.

PAGE
NOTE ON HUNGARIAN GRAPES. By HERR HORVATH 1
NOTE ON BURMESE POTATOES. By Mr. J. WALLACE 4
REPORT ON TOMATOES, CHISWICK, 1887, 1888 6
EXPERIMENTS IN GRAFTING APPLES, CHISWICK, 1875-1884 13
REPORT ON CHINA ASTERS, CHISWICK, 1888........................ 15
VARIETIES OF RHUBARB AT CHISWICK 20
REPORT ON STOCKS, CHISWICK, 1888 22
EXPERIMENTS IN KEEPING FRUIT IN COLD CHAMBERS 23
NOTES ON SAXIFRAGES. By Mr. J. G. BAKER, F.R.S., F.L.S........................ 27
THE CULTIVATION OF SAXIFRAGES. By Mr. GEORGE PAUL, F.R.H.S....... 37
CULTURAL AND DESCRIPTIVE NOTES ON SAXIFRAGES. By Mr. G. REUTHE 40
HISTORICAL NOTES ON DUTCH HYACINTHS. By HEER A. E. BAARNART... 49
THE CULTIVATION OF HYACINTHS IN HOLLAND. By HEER J. H. KERSTEN 54
THE HYACINTH FROM AN ENGLISH POINT OF VIEW. By Mr. JAMES DOUGLAS, F.R.H.S 63
THE NARCISSUS. By Mr. F. W. BURBIDGE, M.A., F.L.S., M.R.I.A. 70
SEEDLING DAFFODILS. By the Rev. G. H. ENGLEHEART, M.A., F.R.H.S. 93
OBSERVATIONS ON PORTUGUESE NARCISSI. By Mr. ALFRED W. TAIT, F.L.S. 103
THE AURICULA. By the Rev. F. D. HORNER, M.A. 107
ORCHIDS: PAST AND PRESENT. By Mr. H. J. VEITCH, F.L.S., F.R.H.S.... 115
ON IRISES. By Professor MICHAEL FOSTER, Sec. R.S. 131
THE STRAWBERRY. By Mr. A. F. BARRON 150
STRAWBERRIES FOR MARKET. By Mr. GEORGE BUNYARD, F.R.H.S. 156
THE NATIONAL ROSE CONFERENCE:—
  ADDRESS by the Very Rev. the DEAN OF ROCHESTER, D.D............. 162
  PRUNING ROSES. By the Rev. A. FOSTER-MELLIAR, M.A............. 165
  THE GROUPING OF GARDEN VARIETIES. By Mr. W. PAUL, F.L.S.... 175
  STOCKS FOR ROSES. By Mr. E. MAWLEY, Hon. Sec. N.R.S. 185
  ROSES SINCE 1860. By Mr. GEO. PAUL, F.R.H.S. 189
  DECORATIVE ROSES. By Mr. T. W. GIRDLESTONE, F.L.S. 194
  R. POLYANTHA AS A STOCK. By Mons. VIVIAND-MOREL 201
  R. CANINA FROM THE URAL MOUNTAINS 205
  THE BOTANY OF ROSES. By Mr. J. G. BAKER, F.R.S., F.L.S. 205
  MODERN ROSES AND HYBRIDISATION. By the Right Hon. LORD PENZANCE 209

CONTENTS.

PAGE

THE NATIONAL ROSE CONFERENCE—*continued.*

A NEW CLASSIFICATION OF ROSES. By Professor FRANÇOIS CRÉPIN 217
ROSE CONSTRUCTION. By Dr. MASTERS, F.R.S., F.L.S. 228
NOTE ON AUSTRALIAN ROSES. By Sir F. VON MUELLER............... 229
NOTE ON NEW INDIAN ROSES. By Dr. GEORGE KING, F.R.S., F.L.S. 229
DIGEST OF STATISTICAL RETURNS AT THE CONFERENCE. By the Rev. W. WILKS, M.A., Sec. R.H.S.................................. 231
SYNONYMS AND ABBREVIATIONS USED IN DIGEST 283
NOTES ON DIGEST OF STATISTICS. By the Rev. W. WILKS, M.A. ... 287
SUMMARISED RESULTS OF STATISTICS. By the Rev. W. WILKS, M.A. 289
NOTE ON STOCKS. By Messrs. COCKER.................................... 299
NOTE ON SPECIES OF ROSES SHOWN AT THE CONFERENCE........... 300
NOTE ON BOOKS AND DRAWINGS OF ROSES AT THE CONFERENCE..... 301

THE ORIGIN OF THE FLORIST'S CARNATION. By Mr. SHIRLEY HIBBERD, F.R.H.S.. 304
PEACHES AND NECTARINES. By Mr. T. FRANCIS RIVERS, F.R.H.S.......... 310
ON CONIFERS. By Mr. W. COLEMAN, F.R.H.S................................ 320
ON PEARS. By Mr. W. WILDSMITH, F.R.H.S. 339

PROCEEDINGS AT MEETING, JANUARY 15, 1889 i
,, ANNUAL MEETING, FEBRUARY 12, 1889 v
REPORT OF THE COUNCIL, 1888 viii
BALANCE SHEET AND REVENUE ACCOUNTS, 1888 xiv
LIST OF DONATIONS TO THE SOCIETY xviii
,, DONORS OF BOOKS, 1888.. xviii
,, ,, PLANTS AND SEEDS, 1888 xix
PROCEEDINGS AT MEETING, FEBRUARY 12, 1889 xx
BOOKS, PLANTS, AND SEEDS RECEIVED TO FEBRUARY 12 xxv
CERTIFICATES AWARDED FROM JUNE 14, 1887, TO DECEMBER 31, 1888... xxvi
PROCEEDINGS, MARCH 12 TO JUNE 25, 1889 xxxiii
,, JULY 2 TO DECEMBER 10, 1889 cxiv
LIST OF DONORS OF BOOKS, 1889.. cxliv
,, ,, PLANTS AND SEEDS, 1889 cxliv
CERTIFICATES AWARDED DURING 1889 cxlvi

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NOTE ON HUNGARIAN GRAPES.

By Herr HORVATH, Avocat, Fünfkirchen, Hungary.

I AM sending you cuttings of the following varieties of Grapes, in order to convince you how fine and good these sorts are. I am certain that among them you will find several varieties, which even in England, where you are *spoiled* with choice grapes, will prove decided acquisitions. Some of them may be grown without further ado, others will furnish good material for hybridising purposes, and the remainder, owing to their exceptionally strong growth, will make first-rate stocks for grafting purposes.

1. *Uva regina rubra.*—This sort has been grown under the name mentioned in the Buda-Pesth vine nurseries for more than fifty years. Origin unknown; perhaps Italian. Berries medium size, much elongated, very sweet and agreeable; colour red, when over-ripe bluish. Period of ripening as early as Royal Muscadine. Cane very strong. Stamens erect, always sets well.

2. *Count of Meran.*—The home of this sort is probably Italy; the celebrated Steiermark gardener, Trummer, gave this sort its name in honour of the son of the Archduke John, who bore the title of Count of Meran. I must remark however, expressly, that this variety is certainly not of Meran origin. Plant very strong, wood ripens well. Berries as large as those of Black Hamburg, colour brownish-violet, when over-mature, blackish; very sweet, with a very agreeable but not very strong Muscat aroma. Ripens with Black Hamburg. Stamens erect, sets well and thickly. Form of berries quite round.

3. *Ökörszem fehér.*—This Hungarian name means White Ox-eye; is also known as the White Gros Colmar of Hungary, although it is not related to the Black Gros Colmar. Origin

Hungarian; plant very strong. Canes ripen well, very prolific. Berries round, very large, white, well-tasted; ripens somewhat before Black Hamburg. Stamens erect, always sets well. A wonderfully fine, very prolific sort.

4. *Volovna.*—The home of this variety appears to be the lower Danube region. It has been grown in the Buda-Pesth vine nurseries for the last fifty years. Plant extremely strong, branches very large. Berries large, elongated, white, very sweet and very well tasted; ripens with Black Hamburg. Stamens erect, always sets well and extraordinarily thickly.

5. *Malaga.*—The home of this sort is unknown to me; in any case it is a Southern sort. Plant very strong, bunch very large, high shouldered; in this respect similar to Muscat of Alexandria. Berry large, elongated, black, late ripening, later than Black Hamburg. Stamens erect, but in spite of that it does not set well, and in this respect is similar to Muscat of Alexandria. It is an extremely beautiful variety, and keeps well. I give the name Malaga to this sort because I found it so named in the collection of a Hungarian vine-grower. I do not, however, conclude that the variety is really of Spanish origin.

6. *Öreg Tárdovány.*—This sort originated at Fünfkirchen, and is a large berried and very early ripening sort, widely distributed in Hungary. Plant strong, canes with thick pith. Berries very large, round, white, ripening very early, earlier than Royal Muscadine. Taste pretty good for so large and early a sort. Stamens erect, always sets well.

7. *Stockwood Golden Hambro'.*—I received this so named in 1862 from a gentleman in this neighbourhood, who obtained it from England. I doubt, however, whether it is the real thing, and send you herewith a few eyes with the request to inform me of its real name when grapes are produced.

8. *Öreg Kadarka.*—Home probably the lower Danube regions. In the vine nurseries at Buda-Pesth it has been grown for more than fifty years. This sort has a certain resemblance to the Kadarka, the celebrated Hungarian red-wine grape, but is distinct from that. Plant strong, prolific; berries large, at least as large as black Hamburg, but ripening much earlier; form of berries elongated, colour black, very delicate and sweet; truly a sort of the first rank; stamens erect. Does not, however, set quite well in bad weather.

9. *Blue Cologne.*—Home Hungary, Croatia, Steiermark. Plant strong, very prolific; bunches very large; berries round, nearly as large as Black Hamburg, black, with a very dense bluish-white bloom. Unquestionably one of the best grapes. Taste very juicy, sweet, and agreeable. Ripens earlier than Black Hamburg. Stamens erect; always sets well and thickly.

10. *Grey Cologne.*—This is like the previous sort, but the red colouring matter of the skin of the berry is wanting, and the berries remain grey. On account of this colour the variety is called *Barát-csuha* in Fünfkirchen, where it is common. *Barát-csuha* means a monk's habit. I believe that the Blue Cologne and Grey Cologne will succeed in your houses, and could be turned to good account by reason of their keeping qualities.

11. *Large Cologne.*—Synonym Blaue Urbanitraube. Home as in Nos. 9 and 10, but is not related to them. A very handsome, strong-growing, large, round-berried, blue sort; ripens very late, and always remains very acid. I only send you this in order to make you acquainted with it. Stamens erect, sets well.

12. *Magnifique de Nikita.*—This sort bears the name just mentioned in the Imperial Garden at Nikita, in the Crimea; it is tolerably distributed throughout Hungary, and appears to have originated in south-east Europe. Plant strong, very prolific. Berries large, oval, white, well tasted; ripens earlier than Black Hamburg. Stamens deflexed. Does not set well; omitting this fault, a very good sort. I send this principally because I believe that the variety Muscat Bretonneau, which I sent you last year, is a hybrid between Magnifique de Nikita and Muscat of Alexandria. Since then I have learnt Muscat Bretonneau originated in the Crimea, where, many years ago, it was raised by the celebrated vine-raiser Hartwiss, who named it in honour of the French pomologist Bretonneau. I again call attention to Muscat Bretonneau, as I am quite convinced that it will be an acquisition to you.

I take this opportunity to call your attention to the fact that crosses, in which the pistil plant is a variety with deflexed stamens, and the pollen plant one with erect filaments, are always very successful. In proof of this, see the many beautiful hybrids of Morocco; for instance, Madresfield Court and Lady Downes, also Muscat Bretonneau. I would strongly advise you to fertilise the deflexed-stamened, very large-berried, Chaouch which I sent you with erect-stamened Muscat of Alexandria. I believe that in this way the finest, best, and largest berried white sorts may be obtained.

13. *Disuća.*—Home, Croatia. The name means in the Croat language *sweet-smelling.* This is not one of the Muscats, it possesses, however, a quite peculiar perfume. Plant very strong, very prolific. Berries medium, round, white, ripening earlier than Black Hamburg; very sweet, does not rot; stamens deflexed; a bad setter.

14. *Musket.*—Home, Turkey. Possesses a quite peculiar perfume, but does not belong to the Muscat group; of such as this and No. 13 and Chaouch a special class might be made, which would also include the celebrated French variety *Sauvignon blanc* (from which Château Yquem is made).

Musket is a very strong-growing, very prolific sort. Bunches large, berries medium, oval, white; ripens somewhat earlier than Black Hamburg; does not rot; stamens erect, sets well.

⁂ These varieties, sent by Herr Horvath, are now growing in the gardens at Chiswick, and some few of them may bear fruit this year.

NOTE ON BURMESE POTATOES.

By Mr. James Wallace, Bhamo, Burmah.

I have the pleasure to dispatch to your address four samples of potatoes grown here, which I hope will reach you in safety:—

1. Kachin, hill-grown potatoes.
2. Shan, plain-grown ,,
3. Shan, hill-grown ,,
4. Chinese, hill-grown ,,

Sample 1.—The quality of these varies much, probably from careless cultivation and lifting before mature. The tubers are mostly kidney-shaped, with ends about same size, but some are pear-shaped.

Sample 2.—This is the best eating potato here, and when mature is really a good floury potato, the tubers being well rounded, with flat eyes; I think the sort worth cultivating. This is grown by villagers on the banks of the Irawaddy and on the islands in Kuir. The islands are below the level of high-flood-water, on loamy soil, but not rich land.

Sample 3.—These are mixed; some tubers resemble No. 1 in shape, whilst others are round, with deep eyes.

Sample 4.—This is a distinctly peculiar long kidney-shaped potato, with both ends tapering. It has very few eyes, and these are very flat. The section shows a dark-red ring. Very small quantities of these are in bazaar, and those I got were picked from a heap of Kachin potatoes.

The Shans cut the tubers for sets.

Potatoes have long been imported from Calcutta to Rangoon, &c., for consumption, and in some parts of Lower Burmah potatoes are grown from imported seed. Since taking Upper Burmah imported potatoes have been delivered in Mandalay, and I dare say as far north as Bhamo, for consumption, but Bhamo has long been known to be a source of potatoes.

In Lower Burmah the Burmese name for potatoes is Thimbaw myoukoo, meaning foreign or brought by steamer (thimbaw = steamer), being the name generally applied to imported or foreign fruits and vegetables.

Aloe, the Hindustani name, is also used by Burmans in Lower Burmah. Here the Burmese name for potatoes is the same as the Chinese and Shan, namely, *Yan-yeh*. The Kachin name is *An-ine*.

There is a regular trade in potatoes in Bhamo. Caravans of pack bullocks and ponies, as also Kachins with back-baskets, bring in potatoes, and return with salt, cotton, and piece-goods. The value of goods varies; but some months ago weight for weight was exchanged in potatoes and salt. Potatoes are dear here.

JAMES WALLACE.

⁂ The tubers received were of medium size and quite distinct in appearance. Some of them were cooked and found to be of exceedingly good quality, quite equal to the best English varieties. A few sets of each were planted and treated in the usual manner. In growth they seemed much alike; the haulm extremely vigorous, the leaves very small. They were attacked by the disease, but did not suffer greatly. On lifting them they were found to produce a vast amount of runners and fibry roots, with but a very few potatoes, and these not much larger than walnuts. A drier and warmer season and lighter soil may possibly be more suitable. They will be tried again this present year.

A. F. BARRON.

REPORT ON TOMATOES GROWN IN THE SOCIETY'S GARDENS, 1887–1888.

During the years 1887 and 1888 very extensive trials of tomatoes have been made in the gardens. That of 1887 consisted of 82 lots, bearing 76 distinct names—as offered to the public. These were, on examination by the Committee, reduced to 26 varieties, which were considered to be distinct. In 1888 Mr. Peter Barr collected and sent for trial 32 varieties, bearing names differing from those already received and tried. The total number of distinct names actually applied to tomatoes are about 109. As the result of the two years' trials the total number of distinct varieties that have been submitted to the Committee amounts to 31. In 1887 the tomatoes were grown with great success, both under glass and in the open ground, the season being exceptionally warm and favourable. In 1888 the trial in the open ground proved, on the contrary, a complete failure, but those under glass were again most successful.

For convenience of reference they have been arranged in classes as follows:

Class I. Fruit large, round, smooth, red.
Class II. Fruit large, flat, corrugated, red.
Class III. Fruit small, round or oblong, red.
Class IV. Fruit large, crimson or flesh-colour.
Class V. Fruit large, yellow or orange.
Class VI. Fruit small, for ornament or dessert.

The different varieties are described and classified according as they were received and grown in the gardens.

Class I.—**Fruit large, round, smooth, red.**

1. ABUNDANCE.

Abundance ... ... *Barr & Son.*

Fruit above medium size, round, smooth, deep red, skin clear, solid. A very free and prolific variety.

2. HATHAWAY'S EXCELSIOR.

Advancer	*Barr & Son.*
Emery	*Farquhar.*
Hathaway's Excelsior	*Farquhar.*
Hathaway's Excelsior	*Veitch & Sons.*
Keye's Prolific	*Veitch & Sons.*
Large Smooth Red	*Farquhar.*
Red King	*Barr & Son.*
Williams's Red King	*Barr & Son.*

Fruit of medium size, quite round, skin clear and smooth, deep red, solid. A moderate cropper.

3. PERFECTION.

Cardinal	*Farquhar.*
Jubilee	*Nutting & Co.*
Livingston's Favourite	*Dean.*
Livingston's Favourite	*Farquhar.*
Livingston's Perfection	*Rutley & Silverlock.*
Mayflower	*Veitch & Sons.*
New Jersey	*Barr & Son.*
Optimus	*Benary & Co.*
Optimus	*Rutley & Silverlock.*
Perfection	*Farquhar.*
Perfection	*Veitch & Sons.*
President Cleveland	*Farquhar.*
Reading Perfection	*Sutton & Sons.*
Red Tomato from Sandwich Islands	*Carter & Co.*
Stamfordian	*Veitch & Sons.*
Volunteer	*Novelty Co.*
Webb's Jubilee	*Webb & Sons.*

Fruit very large, round, skin clear and smooth, deep red. A free grower, and moderate cropper. Very handsome. The finest tomato in cultivation. First-class Certificate, 1887.

4. HAM GREEN FAVOURITE.

Ham Green Favourite	*Crocker.*

Fruit large, inclining to obovate, round, red, smooth, solid, and of fine quality. A very free bearer and handsome. First class Certificate, 1887.

5. Hackwood Park.

General Grant	*Farquhar.*
Hackwood Park Prolific	*Veitch & Sons.*
Invicta	*Veitch & Sons.*
Trentham Early	*Veitch & Sons.*

Fruit large, round, bright red, smooth, occasionally corrugated. A fine cropper and very vigorous grower.

6. Trophy.

Kelway's Nimrod	*Barr & Son.*
Santa Casarina	*Barr & Son.*
Thomson's Excelsior	*Barr & Son.*
Trophy	*Farquhar.*
Trophy	*Veitch & Sons.*

Fruit large, round, smooth, often defective at the apex, deep red, very prolific. An excellent variety.

Class II.—**Fruit large, flat, corrugated, red.**

7. Laxton's Open-air.

Alpha	*Barr & Son.*
Faultless Early	*Farquhar.*
Laxton's Open-air	*Laxton.*

Fruit of medium size, flat, the larger ones somewhat corrugated, red, very free, and prolific; succeeds well in the open ground in good seasons, but is not so suitable under glass. One of the earliest Tomatoes.

8. Early Dwarf Red.

Conqueror	*Veitch & Sons.*
Dwarf Striped Japanese	*Barr & Son.*
Early Dwarf	*Vilmorin et Cie.*
Early Red	*Vilmorin et Cie.*
Fulton Market	*Barr & Son.*
Hubbard	*Barr & Son.*
Hundred Days (a small form)	*Barr & Son.*
King of the Earlies	*Barr & Son.*
Large Red Round	*Barr & Son.*
Little Gem	*Veitch & Sons.*
Little Gem (a small form)	*Barr & Son.*
Orangefield	*Veitch & Sons.*
Orangefield, Improved	*Rutley & Silverlock.*
Tom Thumb	*Barr & Son.*

Fruit of medium size, flat, corrugated, deep red, foliage much curled, of dwarf habit, moderately strong growth. Early.

9. LARGE RED.

Belle de Leuville	*Barr & Son.*
Canada Victor	*Farquhar.*
Cooper's Dwarf Prolific	*Cooper.*
Dobbie's Prolific	*Dobbie & Co.*
Glamorgan	*Hurst & Sons.*
Large Red	*Veitch & Sons.*
Large Red Ribbed	*Barr & Son.*
Nisbet's Victoria	*Sharpe & Co.*
Powell's Early	*Barr & Son.*
Sensation	*Webb & Sons.*
Wheeler's Prolific	*Wheeler & Co.*

Fruit large, flat, much corrugated, deep red. A very strong grower and good bearer.

10. HEPPER'S GOLIATH.

Cranston's Giant	*Barr & Son.*
Hepper's Goliath	*Barr & Son.*
Tilden	*Barr & Son.*

Fruit very large, coarse, much corrugated, deep red, one of the largest in cultivation.

11. DE LAYE OR GRENIER.

De Laye	*Barr & Son.*

Fruit large, red, corrugated, rough, flat; foliage broad, thick, distinct. Plant of stiff, erect growth, hence called the Upright or Tree Tomato. Requires heat. A poor cropper, and of no value.

CLASS III.—**Fruit small, round or oblong, red.**

12. HORSFORD'S PRELUDE.

Horsford's Prelude	*Horsford & Pringle.*

Fruit of medium size, round or oblate, smooth, deep red, very prolific. The fruit borne in large clusters. A very free-setting variety, useful for early cropping. First-class Certificate, 1887.

13. Highbury Prolific.

Highbury Prolific	*Thomson.*

Fruit of medium size, round or oblong, deep red, smooth. A vigorous grower, and a very good bearer.

14. Scarlet Tennis Ball.

Early Scarlet Tennis Ball	*Watkins & Simpson.*
Eclipse	*Sharpe & Co.*
Paragon	*Farquhar.*

Fruit small, oblong or plum-shaped, deep-red, smooth. A very free cropper, and quite ornamental. First-class Certificate, 1887.

15. Chiswick Red.

Chiswick Red	*R. H. Society.*
King Humbert	*Barr & Son.*
King Humbert	*Rutley & Silverlock.*
King Humbert	*Veitch & Sons.*
Ne Plus Ultra	*Novelty Co.*
President Garfield	*Barr & Son.*

Fruit of medium size, oblong or plum-shaped, somewhat angular, smooth, bright red, very dry-fleshed, and not solid. Of inferior quality. An extraordinary cropper, the fruit borne in large clusters of from 10 to 20. Very handsome, and keeps well.

Class IV.—**Fruit large, crimson or flesh-colour.**

16. Acmé.

Acmé	*Farquhar.*
Acmé	*R. H. Society.*
Acmé	*Veitch & Sons.*
Brookwood A1	*R. Lloyd.*
Dedham Favourite	*Carter & Co.*
Early Essex	*Farquhar.*
Livingston's Beauty	*Farquhar.*
Ne Plus Ultra	*Barr & Son.*
Pomegranate	*Sharpe & Co.*
The Hovey	*Barr & Son.*
The Rochester	*Barr & Son.*

Fruit very large, round, smooth, pale red or flesh-coloured. A fine handsome tomato, but objected to by some on account of the colour.

17. Vick's Criterion.

Moore's Gem	*Barr & Son.*
Vick's Criterion	*Veitch & Sons.*

Fruit of medium size, oblong or plum-shaped, skin smooth, pale crimson. A very free-cropping variety.

18. The Mikado.

The Mikado	*Farquhar.*
The Mikado	*Watkins & Simpson.*
Universal	*Veitch & Sons.*

Fruit very large, deeply corrugated, pale red or flesh-coloured. A very coarse variety.

19. Rose-fruited Giant.

Rose-fruited Giant	*Barr & Son.*

Fruit very large, round, flattened, much corrugated, rough, very prolific, and a singular but rather handsome variety, but of little value.

Class V.—**Fruit large, yellow or orange.**

20. Blenheim Orange.

Blenheim Orange	*Carter & Co.*

Fruit of medium size, round, smooth, orange-yellow tinged with pink. A fine variety.

21. Prince of Orange.

Prince of Orange	*Hurst & Sons.*

Fruit large, flat, corrugated, very clear yellow, distinct and good.

22. Large Yellow.

Large Yellow	*Farquhar.*
Large Yellow	*Veitch & Sons.*

Fruit of medium size, flat, very much corrugated, pale yellow.

23. Golden Queen.

Golden Queen	*B. S. Williams.*
Yellow Tomato	*J. Smith.*

Fruit large, round, skin smooth, bright yellow. First-class Certificate, 1887.

24. Green Gage.

Green Gage	*Farquhar.*
Green Gage	*Veitch & Sons.*

Fruit medium size, plum-shaped, skin smooth, greenish-yellow, very free-bearing, and of fine flavour.

CLASS VI.—**Fruit small, for ornament or dessert.**

25. RED CURRANT.

Red Currant or Grape (*Solanum racemigerum*) ... ... *Farquhar.*

Fruit very small, round, red, borne on long racemes like red currants. Very pretty. A purely ornamental variety.

26. RED CHERRY.

Cherry-shaped ... ... *Farquhar.*

Fruit small, round, resembling cherries, produced in clusters; a very pretty variety and of excellent quality.

27. YELLOW CHERRY.

Yellow Cherry ... ... *Farquhar.*

Fruit small, round, smooth skin, bright yellow, very pretty.

28. YELLOW PLUM.

Plum-shaped ... ... *Farquhar.*

Fruit small, yellow, ovate or plum-shaped, skin smooth.

29. PEAR-SHAPED.

Pear-shaped ... ... *Farquhar.*
Nisbet's Victoria ... ... *Veitch & Sons.*

Fruit small, of the shape of a small pear, smooth, deep red, very free-bearing. Keeps well and is of excellent quality. Exceedingly pretty.

30. WHITE APPLE.

White Apple ... ... *Vilmorin et Cie.*

Fruit small, about the size of a walnut, round, greenish white distinct, but of no merit.

31. TURK'S TURBAN.

Turk's Turban, Scarlet ... ... *Barr & Son.*

Fruit small, red, much corrugated, borne in very large proliferous clusters, secondary fruits being produced upon the previous ones in a very singular manner. Perfectly useless and not very ornamental.

A. F. BARRON.

EXPERIMENTS IN GRAFTING APPLES MADE AT CHISWICK.

In the year 1875 the following apple stocks, which had been collected into the gardens for the purpose, were grafted with the Blenheim orange; this variety being selected as the least open to influence, from its well-known character of not bearing to any extent until of some age.

Stock. Names of Stocks as received.

1. French Paradise, received from Messrs. Rivers & Son.
2. Pommier du Paradis, received from M. Durand, France.
   These were identical and true to name.
3. Miniature Paradise, received from Messrs. Rivers.
4. Pigmy Paradise, received from Messrs. Rivers.
   These appeared to be identical—apparently selections of the French Paradise.
5. French Paradise, received from M. Leroy, Angers.
   Identical with Nos. 1 and 2.
6. French Paradise
7. English Paradise
   Identical—obtained from suckers of old trees in the Gardens—probably English Paradise.
8. English Nonsuch Paradise, received from Messrs. Rivers.
9. Broad-leaved English Paradise, received from Messrs Rivers.
10. Pommier du Paradis, received from Mr. Scott.
11. English Paradise, received from Mr. Scott.
    These were identical and distinct from either the true French or English Paradise.
12. English Paradise, received from Mr. Abraham, Woking.
13. English Paradise, received from Mr. Pearson, Nottingham.
    These were identical, and the true English Paradise of Nurseries.
14. Pommier Doucin, received from M. Durand, Paris.
15. Doucin, received from Messrs. Rivers.
    These were identical and true to character.
16. Pommier Franc (Free Stock), received from M. Durand.
17. Dutch Paradise, received from Herr E. H. Krelage, Haarlem.
18. Crab, received from Mr. Scott.

The various stocks at the time of grafting were all in vigorous health, and nearly of equal strength. All the grafts grew well the first season, and were pruned or cut back in the usual manner the following winter; subsequently they were allowed to grow without pruning, or only having the shoots thinned and regulated where too crowded. In 1878, the third year after grafting, several of the trees showing flower, and flowers being fruit in embryo, it was determined to count them, and to make a record of these as a test, as many years might pass before a crop of fruit would be secured. The following table is the result:

TABLE SHOWING THE NUMBER OF FLOWERS PRODUCED IN EACH YEAR FROM 1878 TO 1882 ON THE DIFFERENT STOCKS.

	Stock	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1878	No. of flowers	14	31	5	33	11	—	4	2	21	4	1	—	6	38	29	—	1	—
1879	„	10	23	2	3	5	—	1	—	3	5	—	-	2	30	28	—	11	4
1880	„	4	8	1	3	7	—	—	3	5	—	—	—	—	10	12	—	—	—
1881	„	96	326	54	33	59	—	182	50	156	13	93	—	83	330	226	—	4	—
1882	„	68	72	—	28	—	—	48	—	—	24	16	5	5	96	12	—	—	19
	Total No. of flowers	192	460	62	100	82	—	235	55	185	46	110	5	96	504	307	—	16	23

It will be seen from this table that the Doucin, Nos. 14, 15, and the French Paradise produced during these years of observation the greatest number of flowers. The French Paradise produced, relatively to the size of the tree, more flowers than the Doucin—the latter being more vigorous. No. 6, a so-called French Paradise, and No. 16, Pommier Franc, produced no flowers at all during the five years noted, and the Crab and English Paradise comparatively few. In 1880, the season following the extremely wet one of 1879, apple blossom was remarkably scarce. In 1883, having become crowded, the trees were transplanted, which operation induced an abundance of blossom on every one the following year; very little fruit was, however, obtained, the total crop produced by these 18 trees in 13 years not amounting to a single bushel, and yet the trees are every season pretty well covered with blossom.

In regard to vigour, Nos. 1, 2, 3, 4 continue the weaker. In 1883, Nos. 1 and 2 (French Paradise) commenced to canker, No. 1 eventually dying, whilst No. 2 recovered. The strongest growing are those on the Crab and Free Stocks, but they are all what may be termed vigorous bush trees, from 10 to 15 feet high, growing in a natural manner.

The French Paradise, *as a stock*, has been very successfully used at Chiswick, also the Doucin. *As a fruiting tree* (ungrafted) every example of the French Paradise has invariably cankered, and died after a few years.

A. F. Barron.

REPORT ON CHINA ASTERS GROWN IN THE SOCIETY'S GARDENS AT CHISWICK, 1888.

An extensive trial of these was made in the gardens last year, the seeds having been received from Messrs. Benary of Erfurt, Vilmorin of Paris, and a few varieties from Messrs. Dobbie & Co., Rothesay, and the Novelty Co. They were grown under the names as received, and grouped into the following classes when in flower. The Committee on examination commended certain classes or strains of asters, and awarded × × × to the most select colours.

Class I.—**Chrysanthemum Flowered.**

This is the largest and most beautiful class of asters, of which there are many selections, varying to some extent in the habit of growth, size of flower, &c. The plant is of erect vigorous growth, the leaves large and broad, the flowers erect, large, from three to four inches in diameter, flat, and generally very double, the petals broad, flat, very closely resembling some forms of the chrysanthemum, very suitable for bedding.

1. *Tall Chrysanthemum.* 11 colours (Benary). Height, 22 inches. Commended. Slate blue, × × ×

2. *Dwarf Chrysanthemum.* 18 colours (Benary). Height, 10 inches. Commended. White, white turning to azure blue, rose, light blue and white, fiery scarlet, × × × Flowers very large and fine, especially fiery scarlet.

3. *Dwarf Chrysanthemum.* 11 colours (Vilmorin). Height, 10 inches. Commended. Flesh, rose, scarlet, copper, lilac, white-edged scarlet, red, × × ×

4. *Victoria.* 18 colours (Benary). Height, 18 inches. Commended. White, white turning to azure blue, peach blossom, carmine rose, reddish lilac, light blue and white, white turning to rose, × × ×

5. *Dwarf Victoria.* 7 colours (Benary). Height, 16 inches. A fine strain. Commended. Lilac, rose, indigo blue, × × ×

6. *Dwarf Victoria.* 2 colours (Novelty Company). Height, 12 inches. Scarlet, × × × Very fine.

7. *Comet.* (Novelty Company.) Height, 14 inches. Rose and white striped. Very pretty.

8. *Triumph.* (Novelty Company.) Height, 9 inches. Scarlet, × × ×

9. *Half-dwarf Multiflore.* 11 colours (Vilmorin). Height, 10 inches. Same as *Dwarf Victoria.* Commended. White, light yellow, × × ×

10. *Dwarf Queen.* 2 colours (Benary). Height, 12 inches. Crimson, white, × × ×

11. *Large-flowered Rose.* 12 colours (Benary). Height, 18 inches. Commended. Dark scarlet, × × × Flowers very large and fine.

12. *Washington.* 6 colours (Benary). Height, 16 inches. A pretty selection.

13. *Mignon.* (Benary.) Height, 19 inches. Pure white, × × × A very fine variety.

Class II.—**Pæony-flowered.**

Moderately robust in growth, branching and somewhat spreading. Flowers large, drooping, from two to four inches in diameter, the petals broad, beautifully incurved like an incurved chrysanthemum, forming a nearly globular flower. Exceedingly pretty, especially when cut.

1. *Dwarf Pæony-flowered Perfection.* 8 colours (Benary). Height, 16 inches. Rose, glowing dark scarlet, light blue and white, × × ×

2. *Truffaut's Pæony-flowered Perfection.* 23 colours (Benary). Height, 22 inches. Commended. Rose and

white, carmine, light blue, black-blue, dark scarlet and white, × × × Flowers large and remarkably fine.

3. *Globe Pæony-flowered.* 7 colours (Vilmorin). Height, 22 inches. Commended. Rose, copper white edge, × × × A very fine selection.

4. *Pæony-flowered Globe or Uhland's Aster.* 12 colours (Benary). Height, 18 inches. Rose, light blue, white, glowing dark scarlet, × × ×

Class III.—**Emperor.**

Of very strong, robust growth, seldom branching, and producing only three or four flowers, sometimes only one. Flowers very large, of the chrysanthemum type, coarse.

Giant Emperor. (Benary.) Mixed colours. Height, 19 inches.

Class IV.—**Queen of the Market.**

(*Reine des Halles.*)

Mixed colours (Benary, Vilmorin), of vigorous branching and spreading growth. Height, 19 inches. Flowers large, open, flat, rather coarse. Comes into flower about ten days before the ordinary sorts, and is valuable on that account.

Class V.—**Goliath.**

Strong and robust growth, branching. Flowers very large, open, coarse.

Goliath. 6 colours (Benary). Height, 26 inches.

Class VI.—**Globe-flowered German.**

Strong-growing, branching, spreading. Flowers large, open. Inferior quality.

Globe-flowered German. 17 colours (Benary). Height, 24 inches. Inferior.

Class VII.—**Pyramidal-flowered.**

Compact erect habit, branching. Flowers of medium size, flat. A fine bedding sort.

1. *Dwarf pyramidal.* 12 colours (Benary). Height, 15 inches. Commended for fine habit.

2. *Improved dwarf pyramidal Bouquet-flowered.* 11 colours (Benary). Height, 12 inches. Peach blossom, × × ×

3. *Dwarf pyramidal-flowered.* 2 colours (Benary). Height, 15 inches. Prince of Wales, crimson, × × ×

4. *German pyramidal-flowered.* 3 colours (Benary). Height, 24 inches. Flowers larger than the preceding. Fiery scarlet, × × ×

5. *German pyramidal-flowered.* 11 colours (Benary). Height, 24 inches. Flowers large.

CLASS VIII.—**Bouquet-flowered.**

Fine compact habit, each plant forming quite a bouquet. Flowers of medium size, very pretty.

Dwarf Bouquet. 8 colours (Benary). Height, 14 inches.

CLASS IX.—**Imbricated.**

Erect, compact growth. Flowers medium-sized, the petals very short and close; a very distinct and pretty class.

1. *Imbricated.* 12 colours (Vilmorin). Height, 16 inches. Commended. Indigo blue, × × ×

2. *Imbricated Pompone.* 14 colours (Vilmorin). Height, 24 inches. Flowers smaller than No. 1. A very fine class. Commended.

3. *Imbricated Pompone.* 19 colours (Benary). Height, 20 inches. Commended.

4. *Imbricated Pompone Crown.* 6 colours (Benary). Height, 19 inches. A selection having the crown or centre white.

5. *Imbricated Pompone.* Dark scarlet (Benary). Height, 17 inches. Good.

CLASS X.—**Crown or Cocardeau.**

Of moderate vigour. Flowers having the crown or centre white, the outer portion coloured, presenting a charming appearance; not very constant.

1. *Crown Aster.* 4 colours (Vilmorin). Height, 25 inches. Commended. Lilac, × × ×

2. *Cocardeau or Crown.* 6 colours (Benary). Height, 19 inches.

3. *Dwarf Cocardeau or Crown.* 4 colours (Benary). Height, 15 inches. Commended. Rose, crimson, violet, × × × Flowers very beautiful.

Class XI.—**Dwarf German.**

Plant of very dwarf, compact growth, not exceeding 6 inches. (Benary.) Flowers small. Pretty for small beds.

Class XII.—**Double Dwarf.**

Fourteen colours (Benary). A very early flowering selection of several varieties, some very dwarf pompone, others dwarf quilled. Pretty for bedding.

Class XIII.—**Quilled.**

Of tall, spreading growth; the flowers drooping, large, almost spherical or globular in form; the outer petals broad, flat, forming a border or guard to the centre, which are prettily quilled; very pretty when cut, but not showy in beds, on account of the flowers drooping.

1. *Quilled German.* 18 colours (Benary). Height, 16 inches. Flowers small, and inferior to the English selections; colours very dull.
2. *Betteridge's Quilled.* 12 varieties (Benary). Height, 26 inches. Flowers large and superior to No. 1, but not a good selection.
3. *Dobbie's Quilled.* Mixed colours (Dobbie). Height, 25 inches. Flowers large and good.

Class XIV.—**Shakespeare.**

A very dwarf race of asters, the plants not exceeding 6 inches in height; very compact; flowers small, quilled. Pretty, and suitable for small beds.

Dwarf Pompone or Shakespeare. 8 colours. Height, 6 inches.

Class XV.—**Needle or Cellular.**

A pretty and distinct race, same habit as Chrysanthemum. Flowers quilled.

1. *Victoria Needle.*—8 colours (Benary). Height, 16 inches. Commended. Fiery scarlet, × × × A very fine variety.
2. *Dwarf Victoria Needle.*—2 colours (Benary). Height, 12 inches. Commended. Light carmine, brilliant crimson, × × ×

CLASS XVI.—**Hedgehog or Porcupine.**

Of tall, compact growth. Flowers medium size, quilled, very pretty.

1. *Hedgehog or Porcupine.*—12 colours (Benary). Height, 26 inches. Commended.
2. *Pyramidal Hedgehog.*—2 colours (Benary). Height, 26 inches. Pompone-flowered. Dark crimson, × × ×

CLASS XVII.—**Lilliput.**

An extremely pretty race; of tall, erect, compact growth—each plant forming a compact bunch or bouquet. Flowers small, from 1 to 2 inches in diameter—the centre petals prettily quilled, and of various colours. Comes into flower about 10 days after the ordinary varieties.

1. *Lilliput.*—8 varieties (Benary). Height, 22 inches. Commended.
2. *Lilliput.*—6 varieties (Vilmorin). Height, 18 inches. Very fine.
3. *Lilliput.*—White (Benary). Very fine for cutting.
4. *Schiller.*—8 varieties (Benary). Height, 20 inches. Commended. Rose, × × × Somewhat larger than Lilliput, but in other respects similar.

A. F. BARRON.

REPORT ON THE VARIETIES OF RHUBARB GROWING IN THE GARDENS.

1. EARLY RED—Syn.—*Early Albert, Royal Albert, Prince Albert, Mitchell's Royal Albert, Crimson Perfection.*—This is the earliest variety of rhubarb, commencing to grow in the open ground early in February. The young leafstalks, as they first appear, are of a very beautiful pale crimson, gradually becoming of a mottled pale green as they grow older. Average size 18 to 24 inches long, and 1 to 1¼ inches broad, quite smooth, concave on the upper side and rounded on the under; slightly ribbed, the edges quite sharp. Leaves small, smooth, pale green. Much grown for forcing for the market.

2. LINNÆUS—Syn.—*Johnston's St. Martin.*—This variety, at certain stages of its growth, greatly resembles the Early Red,

but grows much larger, and is nearly a week later ; it also never assumes such a bright colour. The average size of the "sticks" is from 24 to 30 inches in length, and 1 to 2 inches broad; smooth, quite flat on the upper side, and rounded at the edge instead of being sharp like the Early Red, so that they may easily be distinguished by the touch. Leaves large, pale green, smooth.

3. HAWKE'S CHAMPAGNE—Syn.—*Champagne, Salt's New Emperor.*—This is a very favourite variety from its high colour. Is fit for use nearly as soon as Early Red. The young "sticks" are of a very deep crimson colour, somewhat rugose and ribbed, the flesh somewhat coloured, and esteemed on that account. Average size 2 to 3 feet long, and 1 to 2 inches wide. Leaves large, dark green, of a somewhat hoary appearance when young. Awarded a first-class certificate.

4. BALDRY'S SCARLET DEFIANCE.—A second early variety, greatly resembling in appearance Hawkes' Champagne, the "sticks" being of a dark crimson colour, very much ribbed, and rugose.

5. PARAGON.—A large, handsome, second early variety. "Sticks" deep red in colour, resembling Champagne; smooth, very much ribbed. Average size 2 to 3 feet long, and 1 to 2 inches broad. Leaves similar to Champagne, having a hoary appearance. Much esteemed.

6. DANCER'S EARLY RED.—A very old sort; early. "Sticks" pale red, rugose, very angular, and much ribbed. Average size, 12 to 18 inches long, and 1 to 2 inches broad. Leaves small, pointed, much cockled, pale green, smooth. A worthless variety.

7. HARRISON'S.—A very distinct variety. "Sticks" pale green, mottled, very angular and ribbed, from 1 to 2 feet long and 1 to 2 inches broad. Leaves medium size, smooth, pointed, much cockled, very distinct in appearance. Worthless.

8. BUCK'S EARLY RED—Syn's *Buckley's Crimson—Early Tobolsk.*—An old variety, recommended highly at one time on account of the colour of the flesh, which is sometimes very dark; "sticks" small, dull red, rugose, much ribbed and angular. Average size 12 to 18 inches long and 1 to 1½ inches wide Leaves small, pale green, downy. Of no value.

9. *Victoria.*—This is the principal variety in cultivation; comes into bearing several weeks after the Early Red; "sticks"

dark red on their first appearance, gradually changing to a mottled-green as they grow older; broadly concave on the upper surface and ribbed on the under. Average size 2 to 3 feet long and 1½ to 2 inches broad. Leaves large, dark green. Excellent for summer use.

10. STOTT'S MONARCH—Syn's *Scotch Monarch—Monarch Goliath.*—This is the largest variety of rhubarb, the average size of the "sticks" being from 2 to 2½ feet long and from 2 to 3 inches wide; pale green in colour; smooth, concave on the upper surface, rounded and ribbed on the under. Flesh pale green, intensely acid or sour. Late. Leaves very large, of a pale glaucous green. A. F. B.

REPORT ON STOCKS, 1888.

These were sown in good light soil, in the open ground, about the middle of April. Although the season was wet and cold they grew and flowered well. They were examined by the Floral Committee when in full flower, who awarded × × × to the most select colours.

1. *Large-flowering* 10 *week* (Vilmorin).—14 colours. Plant of vigorous growth, producing fine spikes with large double flowers. Height 22 inches. The following received × × ×: white, sulphur, lilac, blood-red, violet, light violet.

2. *Large-flowering dwarf,* 10 *week* (Benary).—24 colours; same as No. 1 (Vilmorin); white, dwarf-white, brick-red, and light blue, received × × ×. This is one of the finest varieties of stock.

3. *Large-flowering wallflower-leaved* (Vilmorin)—4 colours; of compact growth. Height 12 inches. Flowers large. Growth weak.

4. *Large-flowering dwarf,* 10 *week, wallflower-leaved* (Benary). —10 varieties; same as No. 3.

5. *Dwarf German,* 10 *week* (Benary).—30 varieties. Growth compact; smaller than the Large-flowering. Height 14 inches. Chamois, rose, × × ×.

6. *Dwarf German,* 10 *week, wallflower-leaved* (Benary).— 6 varieties. Plant small, compact. Height 12 inches.

7. *Dwarf Bouquet German* (Benary).—12 varieties. Plant of compact growth, very bushy. Flowers small. Height

8. *Perpetual Dwarf*, 10 *week* (Semperflorens).—(Benary), 6 varieties. Plant of compact growth. Flowers small. A continuous flowering variety.

9. *Large flowering pyramidal*, 10 *week* (Benary), 12 varieties. Growth medium. Height 18 inches. Flowers large. A very fine variety.

10. *Large flowering dwarf pyramidal.*—(Benary), 18 varieties. Very dwarf compact pyramidal growth. Height 12 inches. A pretty little Stock.

11. *Tree or Giant*, 10 *week.*—(Benary), 12 varieties. Plant of strong growth. Height 24 inches, producing long spikes of fine flowers, and lasting a long time in bloom.

12. *New Giant Perfection.*—(Benary), 8 varieties. Plant of strong growth, similar to No. 9. Height 24 inches. Flowers large and very double, on long spikes. Sulphur yellow, light blue, × × ×. A very desirable variety.

13. *Branching German*, 10 *week.*—(Benary), 6 varieties. Plant of long-spreading growth. Height 30 inches, profusely flowering.

14. *Forcing*, 10 *week* (Snowflake).—(Vilmorin). Plant of very compact growth. Height 12 inches. Flowers pure white, good.

15. *Victoria* (Novelty Co.).—Plant of compact growth. Height 15 inches. Flowers deep blood-red. A very fine variety of dwarf German, 10 week, × × ×.

A. F. B.

EXPERIMENTS IN KEEPING FRUIT IN COLD CHAMBERS.

THE Sub-Committee of the Fruit and Vegetable Committee—Messrs. Cheal, Marshall, Lee, Rivers, Smith, Wright, and Barron, Secretary—appointed to carry out some experiments in keeping fruits fresh, by means of cold storage, as suggested by Mr. Tallerman, of the Cold Storage Company, 79½ Gracechurch Street, held five meetings in the chambers of the Company, viz. on August 23, August 30, September 13, October 4, and November 1, 1888, and have carried out the experiments as far as it seemed desirable or necessary to do so this season. Every facility was afforded to the Committee by Mr. Tallerman.

At the first meeting on August 23, the Committee examined several baskets of cherries which had been kept in a temperature of 26° since August 8, which were frozen quite through, but still retained some flavour. Some strawberries placed in the stores on July 12 were also completely frozen, and appeared sound, but on exposure they speedily thawed, and melted into watery pulp.

The Committee decided that it would not be desirable to have the fruits *frozen*, but that a temperature of 35° should be tried, which has since been followed as closely as possible.

Several baskets and boxes of fruits have been received by the Committee, and placed in the stores as received without unpacking, the Committee examining the same at each meeting as shown by the following table:

Examples	Received from	Placed in Store	Examined	Remarks as to Condition &c.
12 Figs ...	R.H.S....	Aug. 23	Aug. 30	Appearance good; slight loss of flavour.
,, ...	,, ...	,,	Sept. 13	Two fruits decaying: others in good condition; the black varieties unaltered.
Tomatoes ...	,, ...	,,	Aug. 30	All quite rotten. Colder temperature recommended for trial.
Figs	,, ...	Aug. 30	Sept. 13	In fairly good condition; two fruits beginning to decay.
,, ...	,, ...	,,	Oct. 4 ..	One fruit partly sound; others rotten.
Plums (Orleans)	,, ...	,,	Sept. 13	As good as ever.
,, ,,	,, ...	,,	Oct. 4 ..	All decaying; flavour entirely gone.
12 Peaches .	,, ...	,,	Sept. 13	Eight fruits in good condition; two decayed.
,, .	,, ...	,,	Oct. 4 ..	All decayed.
6 Noblesse Peaches	Rivers ...	,,	Sept. 13	In fine condition.
,, ,,	,, ...	,,	Oct. 4 ..	Five fruits sound, no flavour; one decayed.
,, ,,	,, ...	,,	Nov. 1.	All decayed; appeared sound externally.
6 Nectarines	,, ...	,,	Sept. 13	In good condition.
,,	,,	,,	Oct. 4 ..	Three fruits partially decayed, one sound: flavour gone; tasted of moss packing.
,,	,, ...	,,	Nov. 1 ..	Three fruits still partly sound.
Plums ...	,, ...	,,	Sept. 13	Sound and good.
,, (Oullin's Goldengage)	,, ...	,,	Oct. 4 ..	Sound; very little flavour.
,, ,,	,, ...	,,	Nov. 1.	All rotten.
Melon ...	Cheal & Sons	Aug. 31	Sept. 13	Rotten.

Examples	Received from	Placed in Store	Examined	Remarks as to Condition &c.
Peaches and Nectarines	Cheal & Sons	Aug. 31	Sept. 13	In good condition.
" "		"	Oct. 4 ..	Four nectarines decayed, appear to have been bruised; two sound. Peaches all bad but two.
" "	"	"	Nov. 1 ..	All decayed.
Plums ...	R.H.S. ...	"	Sept. 13	In good condition.
" ...	" ...	"	Oct. 4 ..	Quite sound, but with very little flavour.
" ...	" ...	"	Nov. 1..	Apparently sound, but quite gone.
Tomatoes ...	" ...	"	Aug. 31	Nearly all bad; a few of the yellow variety sound. Box had been two hours in freezing room.
" ...	" ...	"	Oct. 4 ..	All rotten.
Plums, Victoria	Martin & Selling	Sept. 13	Oct. 4 ..	Fruit very indifferent; a few decayed.
Mitchelson's	"	"	"	Fruit sound.
"	"	"	Nov. 1 ..	Decayed.
Crittenden Damsons	"	"	"	Much decayed.
Shropshire	"	"	"	Partly decayed.
Pear, Williams's Bon Chrétien .	J. Lee ...	Sept. 17	Oct. 4 ..	Five fruits decayed; one sound, quite fresh, and of excellent quality. Considered that the fruit should be stored before becoming ripe.
Apples ...	Bunyard.	Sept. 13	"	Mr. Gladstone decayed; others quite sound.
" ...	" ...	"	Nov. 1..	Red Quarrenden, sound and good; also Duchess of Oldenburgh, Sugar-Loaf Pippin, Early Julien, Worcester Pearmain, Nonsuch and Irish Peach.
Pears ...	" ...	"	Oct. 4 ..	One pear decayed; others unripe, sound.
" ...	" ...	"	Nov. 1..	Two fruits in excellent condition; good.
Peaches ...	Allis ...	Sept. 28	Oct. 4 ..	All bruised in transit.
" ...	" ...	"	Nov. 1 ..	Rotten.
Plums ...	" ...	"	Oct. 4 ..	Sound.
" ...	" ...	"	Nov. 1..	Rotten.
Gooseberries	" ...	"	Oct. 4 ..	Rotten.
Currants ...	" ...	"	"	Smashed and rotten.
Cherries ...	" ...	"	"	Smashed.
Currants ...	Day ...	Sept. 27	"	In good condition.
" ...	" ...	"	Nov. 1..	Rotten.
Gooseberries	" ...	"	"	Rotten.
" ...	Leslie ..	Sept. 26	"	Smashed in transit.

Examples	Received from	Placed in Store	Examined	Remarks as to Conditions &c.
Greengage Plums	Smith (Mentmore)	Sept. 30	Oct. 4 ..	All sound; not well selected; very wet.
,, ,,	,,	,,	Nov. 1..	A few decayed; many quite sound, but with little flavour.
Damsons ...	,,	Oct. 4 ..	,,	Sound, and mostly in good condition, and of full flavour.

These experiments may not be altogether of so satisfactory a character as could be desired. So far as they go, however, they undoubtedly prove that ripe fruit may be kept in good condition (flavour excepted) in a low temperature for a long time beyond its natural season. Whether the temperature, 35°, determined upon by the Committee was the very best or not, can only be ascertained by a long course of experiments and careful observations.

It is important to note that several fruits which are of a distinctly perishable nature, such as figs, Orleans plums, and nectarines kept in good condition for 21 days, whilst Oullin's golden gage kept well for over a month.

Tomatoes were found to decay immediately, also melons. Some Williams's Bon Chrétien pears, placed in the store nearly ripe, soon decayed, whilst one fruit which was quite unripe was found to be in very excellent condition on October 4, nearly three weeks later. Apples, several early varieties, were found in good condition on November 1, quite a month beyond their natural season. Currants and gooseberries were not received in good condition.

The Committee, it may be stated, were not quite satisfied that the store in which the fruit was placed was altogether suitable for the purpose. The presence of dead meat and other matter in the same chamber, and the frequent opening of the doors consequent on its removal &c. cannot but have interfered with the temperature and the atmosphere of the place, and have thus injuriously affected the keeping of the fruit.

In many cases it was noted that a considerable amount of moulding and decay had taken place, which could only have arisen from a damp atmosphere, the opinion of the Committee being that a perfectly dry atmosphere would prove the most satisfactory.

T. Francis Rivers, *Chairman.*
A. F. Barron, *Secretary.*

JOURNAL

OF THE

ROYAL HORTICULTURAL SOCIETY.

NOTES ON SAXIFRAGES.

By Mr. J. G. Baker, F.R.S., F.L.S.

[Read March 12, 1889.]

My function to-day is, I believe, partly to give a short lecture, and partly to start a discussion. I have not made a special study of Saxifrages, but they are a set of plants which are so prominent in gardens and in the flora of the north temperate zone that anyone working at botany soon gets to know a good deal about them. I think that discussions between cultivators on the one hand, and botanists on the other, ought to be really useful. At any rate, speaking as a botanist, I can bear testimony that as soon as I begin to study any genus of garden plants, whether it be Lilium or Iris, or Crocus or Narcissus, or Aquilegia or Helleborus, I very soon find that there are many things which throw light upon the relationship of the types and their geographical distribution and modes of propagation which seem at first sight elementary, but which I do not understand fully and clearly; and then, if I can, I get hold of some cultivator who works with his eyes open and catechise him freely. As I pass on my way to-day I will illustrate what I mean by asking a few questions of this kind as they naturally arise.

Alpine plants.—What are called in gardens "Alpine plants" are a group which possess a wonderful history, and which in geographical botany are recognised as forming a distinctly-marked class. It would appear that the last great geological revolution, reaching in its effects over the whole of the north temperate zone, has been a change from a much colder climate to the present state of things; that before this change a large proportion of the species, as they now stand, were in existence; and that when the change came they retreated from the low levels of the north temperate zone to the north, and up the high mountains. At the present day a large number of the characteristic plants of our British mountains, the Pyrenees, the Alps, the Himalayas, and the Rocky Mountains of North America, grow also in the Arctic zone. It is estimated that in Europe alone there are not less than one thousand plants out of ten thousand that belong to this group, the three specially representative genera of which are Primula, Gentiana, and Saxifraga.

Geographical Distribution.—The following table will give a general idea of the distribution of Saxifrages. It is taken, with trifling alteration, from the excellent monograph of the genus which was published in 1862 by Professor Engler. He defines 166 species, and adding to this the Bergenias, which he excludes from the genus, and the new species which have been discovered in Central Asia, the number will be raised to 180. These are distributed as follows :—

	Species
Central European Alps	42
Himalayas	35
Pyrenees	30
Carpathians	25
Rocky Mountains	22
China	20
Apennines	19
Eastern Siberia	17
Southern Spain	16
Roumelia and Greece	14
Scandinavia	14
Caucasus	13
France west of the Rhine	13
Britain	12
Altai	11
Jura	9
South American Andes	5
Australia, New Zealand, and the Cape	0

The species which are spread through the whole of the north temperate zone are nine in number, and out of this seven are British. The British cosmopolites are cernua, Hirculus, stellaris, tridactylites, nivalis, oppositifolia, and cæspitosa; and the two that are not British are hieracifolia and Aizoon. Of course we might easily discuss the whole question of the history and dispersion of these arctic-alpine types, starting from Saxifraga as a text, but we have not time for that; I will only point out that the distribution of Saxifraga agrees in broad general outline with that of Primula; and that both genera, using the Andes as a bridge, reach South America. Gentiana also does this, and comes out far more strongly in the Andes, and in addition reaches the mountains of Australia and New Zealand. In this connection I will ask to what extent in cultivating Saxifrages you rely upon seed for extending your stocks. A small number increase rapidly by means of bulbillæ, and others by vegetative growth. How do you account for Saxifraga umbrosa, a plant with a very limited range in a wild state, standing so well the drought and smoke of our London gardens; and S. oppositifolia, which a botanist would class as an alpine of alpines, which grows naturally where there are only a few months from snow-time to snow-time, making itself so completely at home on a London rockery?

Garden Saxifrages.—Out of the 180 species we have just about half in cultivation. I am sorry that in consequence of its being so early in the year our exhibition of living plants to-day is of necessity such a small one. There are a great many names in the garden catalogues of which Botany knows nothing. As this paper will be printed in the Proceedings of our Society, I thought the best thing I could do would be to give a classified catalogue of the cultivated species, with their names and native countries. I have followed Engler's classification and adopted his numbers, so that the blanks will show roughly where the non-cultivated species fall. The great bulk of the cultivated species come under six out of the sixteen groups. Three out of these six have the cotyledons tipped and the leaves more or less bordered with glands, and the three others are without them. Of the non-foveolate groups Dactyloides includes twenty-one species. These are marked by their mossy habit, copious trailing leafy shoots, palmately divided leaves, and few corymbose flowers, with petals usually large and white. The best known species of this group are hypnoides, ceratophylla, and cæspitosa with its numerous varieties. Two fine large flowered-types of recent introduction are Camposii and Maweana. The second non-foveolate group is Robertsonia, which only includes three species, umbrosa, Geum, and cuneifolia. The third is Bergenia (called Megasæa by Haworth), which is confined to the Western Himalayas and mountains of Siberia, and is very clearly separated from all the other groups by its red unspotted petals, thick rootstocks, and large undivided leaves of firm texture. Of the foveolate groups the best known is Euaizoonia (or crustaceous Saxifrages), in which the densely rosulate leaves are margined with numerous chalk-sécreting pores, and the numerous flowers form ample erect panicles. The most widely spread species of this group is S. Aizoon. For purposes of cultivation, Cotyledon, florulenta, longifolia, and lingulata are the finest. Several of the species have a restricted range amongst the mountains of Southern Europe. I should like to know how far these need carbonate of lime for their successful cultivation. In Kabschia, under which eighteen cultivated species fall (of which we may take S. Burseriana as a type), the leaf-glands are much fewer and less conspicuous, the flowers fewer, and the leafy shoots last for many years, and are thickly beset down below the fresh leaves with the relics of the old ones. In Porphyrion, which includes oppositifolia and three other high alpine species, the leaves are opposite and decussate, and the red or purple flowers solitary on short leafy peduncles. In the small Chinese and Japanese group Diptera there are long creeping stolons, and the spotted petals are very unequal in size. The Californian S. peltata has large peltate leaves like that of a Rhubarb or Gunnera. I do not think there are many species not yet introduced that are worth much from a garden point of view. Out of the thirty-five Himalayan species, which are mostly endemic, twenty-six have not yet been introduced.

Structure of the Ovary.—A difference in the structure of the ovary upon which botanists greatly rely for purposes of classification is overlooked very easily by a casual observer. There are in the genus three distinct types as regards the cohesion of the ovary and calyx-tube. To take our illustrations from the wild British species, in Geum, umbrosa, stellaris, and Hirculus, the carpels are entirely distinct from the calyx-tube. In the species of this group the calyx is sometimes reflexed when the flower is fully expanded. In hypnoides, granulata, aizoides, and oppositifolia, the lower part of the carpels is fused with the calyx-tube. In S. tridactylites the ovary is entirely inferior, there is no free tube, and the stamens are epigynous, as in Ribes and Philadelphus. Saxifraga is the only genus I remember in which there is every transition between a superior and an inferior ovary. In other respects the structure of the flower is very uniform, except that in a few species the petals are unequal, and in florulenta the carpels are three instead of two. The stamens are always ten, five opposite the petals and five opposite the calyx-segments, the filiform filaments exceeding in length the two-celled anthers, which dehisce longitudinally; but this difference in the cohesion of calyx-tube with ovary is a character which in systematic Botany is usually regarded as so important that plants that differ in this way are not classed in the same natural order.

Petals.—We may roughly classify the Saxifrages under three groups, according to the colour of the petals: pure white, as in hypnoides and granulata; white dotted with small spots of red, as in umbrosa and stellaris; and bright red or bright purple or bright yellow, as in aizoides, Hirculus, and oppositifolia. I should like to ask whether this difference in the colour of the flower is at all correlated with its attractiveness to insects. According to the observations of Hermann Müller, some of the bright-coloured species, in their native homes amongst the mountains, are visited by an extraordinary number and variety of insects. He gives a catalogue of 126 species which he has observed to visit the bright yellow flowers of S. aizoides. Eight of these are Coleoptera (beetles), 85 Diptera (flies), 20 Hymenoptera (bees), and 13 Lepidoptera (butterflies and moths). To what extent are the flowers of the garden Saxifrages visited by insects? What relation, if any, have the red dots on the white petals of several of the species to insect fertilisation. The glandulosity of the calyx must interpose a barrier to small wingless insects creeping up into the flower from below,

Fertilisation and Hybridity.—There are not nearly so many hybrids in Saxifraga as in Primula. I give in an appendix a list of the principal hybrids known in cultivation, with their parentage. In some of these—as, for instance, between media and aretioides, there exists a series of forms leading gradually from one specific type to the other. In other cases—for instance, Andrewsii—the hybrid type is uniform and equidistant between its parents. I believe most of these hybrids are wild, and that very few hybrid Saxifrages have been raised in cultivation. Saxifrages may be classified, some as protandrous and some as protogynous. I give a sketch of each of the two types, copied from woodcuts in Hermann Müller's "Alpenblumen." But in diplostemenous flowers the two rows of stamens do not open and shed the pollen at the same time, and I incline to believe that what insects generally do with Saxifrages is to convey the pollen to the stigma of the same flower, and that cross-fertilisation is much less frequent here than in the heterostylous isostemenous Primulas. This is a question to which further observation may be suitably directed. But if I am to keep within the limits of the time that has been allotted to me, I must conclude. I have asked or suggested a great many questions. Of course I do not expect them to be answered off-hand on the spot by members of the present company; but I think you will agree with me that the genus furnishes a field for a wide range of observation, deduction, and speculation

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A CLASSIFIED LIST OF CULTIVATED SAXIFRAGES, ARRANGED AFTER ENGLER'S MONOGRAPH.

Section BERGENIA, *Moench* (MEGASÆA, *Haw.*) (excluded from Saxifraga by Engler).

crassifolia, Linn. Siberia.
——— cordifolia, Haw.
ligulata, Wall. Himalayas.
——— ciliata, Wall.
——— thysanodes, Lindl.
Stracheyi, Hk. fil. & Thoms. Himalayas.
——— Milesii, Baker.
purpurascens, Hk. fil. & Thoms. Himalayas.

Section 1.—CYMBALARIA, *Griseb.*

3. Cymbalaria, Linn. Asia Minor, Persia, W. Himalayas.

Section 2.—TRIDACTYLITES, *Haw.*

7. tridactylites, Linn. N. temp. zone.
8. adscendens, Linn. Europe, N. America.

Section 3.—NEPHROPHYLLUM, *Gaud.*

11. biternata, Boiss. Spain.
12. arachnoidea, Sternb. Tyrol.
15. lactea, Turcz. Siberia.
16. irrigua, M.B. Caucasus.
17. Cossoniana, B. & R. Spain.
20. granulata, Linn. Europe, Himalayas.
21. odontophylla, Wall. Himalayas.
27. cernua, Linn. N. temp. zone.
latepetiolata, Willk. Spain.

Section 4.—PELTIPHYLLUM, *Engler.*

28. peltata, Torrey. California.

Section 5.—ISOMERIA, *Torrey & Gray.*

32. aconitifolia, F. & G. Carolina.

Section 6.—MISCOPETALUM, *Haw.*

34. rotundifolia, Linn. Europe, Asia Minor.

Section 7.—HIRCULUS, *Tausch.*

42. Hirculus, Linn. N. temp. zone.
44. diversifolia, Wall. Himalayas.

Section 8.—BORAPHILA, *Engl.*

48. stellaris, Linn. N. temp. zone.
49. Clusii, Gouan. France; N. Spain.
50. leucanthemifolia, Mich. N. America.
61. virginiensis, Mich. N. America.
62. nivalis, Linn. N. temp. zone.
63. davurica, Pall. N. Asia.
65. integrifolia, Hook. N. America.
66. pennsylvanica, L. N. America.
68. hieracifolia, W. & K. N. temp. zone.

Section 9.—DIPTERA, *Borkh.*

69. sarmentosa, Linn. fil. Japan.
70. cuscutæformis, Lodd. China.
71. Fortunei, Hook. China.
72. cortusæfolia, L. & Z. Japan.

Section 10.—DACTYLOIDES, *Tausch.*

73. aquatica, Lap. Pyrenees.
74. ajugæfolia, Linn. Pyrenees.
75. perdurans, Kit. Carpathians.
76. pedemontana, All. Cent. Europe.
78. pedatifida, Ehrh. S.E. France.
79. geranioides, Linn. Pyrenees and Auvergne.
81. cuneata, Willd. Spain.
83. Camposii, B. & R. Spain.
(Wallacei, Hort.)
86. trifurcata, Schrad. Spain.
87. pentadactylis, Lap. Pyrenees.
91. moschata, Wulf. Cent. Europe.
92. exarata, Vill. Cent. Europe.
Maweana, Baker. Morocco.
96. cæspitosa, Linn. N. temp. zone.
——— Sternbergii, Willd.
——— hirta, Don.
——— decipiens, Ehrh.
97. hypnoides, Linn. Europe.
——— sponhemica, Gmel.
——— quinquefida, Haw.
98. conifera, Coss. & Durieu. Spain.
99. spathulata, Desf. Atlas.
102. muscoides, All. Cent. Europe.
——— Facchinii, Koch.
104. androsacea, Linn. Eur. and Asia.
105. Seguieri, Spreng. Cent. Europe.
106. sedoides, Linn. Cent. Europe.
107. aphylla, Sternb. Cent. Europe.

Section 11.—TRACHYPHYLLUM, *Gaud.*

117. tenella, Wulf. Cent. Europe.
118. aspera, Linn. Cent. Europe.
——— bryoides, Linn.
119. bronchialis, Linn. Asia; N. Amer.
120. tricuspidata, Retz. N. Amer.
123. aizoides, Linn. N. temp. zone.
129. flagellaris, Willd. N. temp. zone.

Section 12.—ROBERTSONIA, *Haw.*

130. umbrosa, Linn. Ireland and Pyrenees.
131. cuneifolia, Linn. Europe.
132. Geum, Linn. Ireland; Pyrenees.
——— hirsuta, Linn.
——— elegans, Mack.

Section 13.—EUAIZOONIA, *Schott.*

133. longifolia, Lap. Pyrenees.
134. lingulata, Bell. S. Europe.
——— lantoscana, B. & R.
——— catalaunica, B. & R.
——— cochlearis, Reich.
135. crustata, Vest. South Europe.
136. Hostii, Tausch. South Europe.
——— elatior, M. & K.
137. altissima, Kerner. Austrian Alps.
138. Aizoon, Linn. N. temp. zone.
——— Malyi, S. N. & K.
139. Cotyledon, Linn. Through Europe.
140. florulenta, Moretti. Marit. Alps.
141. mutata, Linn. Central Europe.
Kolenatiana, Regel. Siberia.

Section 14.—KABSCHIA, *Engler.*

142. media, Gouan. South Europe.
143. luteo-viridis, S. & K. Austrian Alps.
144. lævis, M.B. Caucasus.
145. Kotschyi, Boiss. West Asia.
146. aretioides, Lap. Pyrenees, Savoy.
147. scardica, Griseb. Greece and Turkey.
148. Rocheliana, Sternb. Austrian Alps.
——— coriophylla, Griseb.
149. marginata, Sternb. Greece.
151. diapensioides, Bell. Alps.
152. imbricata, Royle. Himalayas.
153. squarrosa, Lieber. Cent. Europe.
154. cæsia, Linn. Cent. Europe.
155. valdensis, D.C. Savoy.

157. Tombeanensis, Boiss. Tyrol.
158. Vandellii, Sternb. S. Europe.
159. Burseriana, Linn. Cent. Europe.
160. sancta, Griseb. Mt. Athos.
161. juniperifolia, Adams. Caucasus.

Section 15.—PORPHYRION, *Tausch.*

163. oppositifolia, L. N. temp. zone.
——— Rudolphiana, Hornsch.
164. biflora, All. Through Europe.
165. macropetala, Kern. Alps.
166. retusa, Gouan. Europe.

List of the Principal Cultivated Hybrid Saxifrages, with their Parentage.

1. ambigua, D.C., between media and aretioides.
2. Andrewsii, Haw., between umbrosa and Aizoon.
——— Guthrieana, Hort.
3. capitata, Lap., between aquatica and ajugæfolia.
4. Churchillii, Huter, between Aizoon and Hostii.
5. Engleri, Huter and Porta, between crustata and Hostii.
6. Hausmanni, Kerner, between mutata and aizoides, quite intermediate.
7. Kochii, Hornung, between oppositifolia and biflora.
8. luteo-purpurea, Lap. (Friderici-Augusti, Hort. not. Biasol.), between aretioides and media.
9. patens, Gaud., between cæsia and aizoides.
10. Portæ, Huter.
11. Regelii, Kerner, between mutata and aizoides, nearer the latter.
12. Reyeri, Huter, between tenella and sedoides.
13. tyrolensis, Kerner, between cæsia and squarrosa.
14. Zimmiteri, Kerner, between Aizoon and cuneifolia.

THE CULTIVATION OF SAXIFRAGES.

By Mr. George Paul, F.R.H.S., Cheshunt.

[Read March 12, 1889.]

At the request of the Secretary, I venture to add a few words to the interesting paper just read by Mr. Baker. In practical gardening Saxifrages are a very useful and decorative family. As the majority are mountain plants, they serve particularly well in the decoration of rock gardens, and in such positions they are amongst the earliest flowers to brighten the approach of spring. Such species as S. Burseriana and S. luteo-purpurea (the latter better known under its synonym of Friderici-Augusti) open with the slightest sun aid early in February. S. sancta follows these promptly. We have then the various forms of S. oppositifolia, comprising the most widely-spread of all English mountain Saxifrages. As a rule Saxifrages are easily grown, and it is only necessary to observe one or two leading principles in their culture.

There are a few sorts that require moist conditions, and which, colloquially, may be called bog Saxifrages. These may be at once enumerated. We have S. peltata revelling on the edges of ponds, where its roots may reach the water. We have also S. Hirculus, which is a yellow-flowered bog species of dwarf habit. And, lastly, we have S. granulata and its double form, found both in the Lea and Thames marshes, and S. diversifolia.

All other species, in a general sense, may be described as requiring to be grown on thrown-up soil, that is, on ground higher than the ordinary level, to escape all chances of stagnant moisture. Under such conditions they grow freely, are hardy—resisting any amount of cold—provided only they are not water-logged. During the season of growth they like plenty of water, but after that it is necessary the conditions should become drier, in order to prepare for the next flowering season.

One of the most interesting sections of this family is that known as the Encrusted Saxifrages. In this the leaves are of a tufted habit, jewelled, so to speak, with silvery dots (of carbonate of lime), so that even when not in flower they are beautiful objects. I have found these thrive best under culture, either in pots, placed in a sunny open place, or planted on rocky buttresses standing out from the face of the rockwork. These buttresses may be formed of rocky *débris* of limestone or granite (the plants appear to thrive equally well on either), but it is necessary that the roots should be able to penetrate to a good depth. Others may be planted in situations fully exposed to the sun on the sides or upper surfaces amongst broken stones ; whilst the beautiful S. longifolia of the Pyrenees prefers to be planted vertically between stones, and for choice looking towards the west. Other sorts in this section, such as S. Aizoon and varieties, S. lantoscana, S. pyramidalis, will thrive anywhere on rocky walls; whilst a special few, such as the beautiful S. Burseriana and S. cæsia, always impatient of moisture, need the highest and best-drained situations that can be given them. Once established in such situations, plants of this section form dense tufts of silvery foliage often from 6 inches to 1 foot in diameter. They bloom abundantly during the months of April, May, and June, the flowers being mostly white, but sometimes, as in S. Macnabiana, with carmine or red spots on the petals. Success in the culture of these plants depends on the use of gritty or sandy soil, on good drainage, an open sunny aspect, and plenty of water in summer whilst the plants are in a growing state.

The most ornamental of the Encrusted Saxifrages, including also the smaller growing sorts, are : S. aretioides and varieties ; S. Burseriana, S. cæsia, S. carinthiaca, S. lantoscana, S. crustata, S. diapensioides, S. luteo-purpurea, S. Malyi, S. marginata (one of the prettiest of all), S. patens, S. Rocheliana, and S. squarrosa. The larger growing sorts with good spikes of flowers are S. Aizoon and its many varieties, S. carniolica, S. Cotyledon, S. longifolia and varieties, S. lantoscana, S. Macnabiana, and S. pyramidalis. The last is not quite hardy, but it is an excellent pot plant, and is very much grown by market gardeners.

The Saxifrages with round, fleshy leaves, of which the common London Pride (S. umbrosa) is a familiar example, are of easy culture. They do well as border plants, and spread freely where they have warmth and moisture. Hence they are very suitable to plant in beds at the foot of the rock garden. S. granulata, our Marsh Saxifrage, requires the dampest nooks.

S. rotundifolia likes places almost as damp as S. granulata. Of this group the most ornamental, in addition to those already named, are S. Geum, S. virginica, S. Andrewsii, S. capillipes, S. taygetea—the latter a very pretty variety of S. rotundifolia, and like Soldanella minima in habit.

In the section of Mossy Saxifrages, with vivid green foliage and white fragrant flowers, the plants luxuriate in moist but well drained and cool situations ; for choice, say, on the northern or eastern wall or slope of rocks. They are very suitable as edging to beds under shade, and ferneries. When well grown they form beautiful green carpets, especially in autumn. The most ornamental kinds are S. ajugæfolia, S. Camposii, S. hypnoides, S. Lindseana, S. tenella, S. Whitlavi, and the beautiful exception, as to colour, S. muscoides purpurea, which has reddish-crimson flower buds and flowers.

The group of which S. oppositifolia is the type contains plants very difficult to grow well. They are inhabitants of our highest mountains, and are probably survivors of the flowers of the glacial period. They are found only near mountain tops ; and in our warm, lowland climate they require very careful treatment to keep them alive through a hot summer. When well grown, they form dense matted tufts, and when in bloom they are very striking objects. The flowers are large in comparison with the foliage, and are produced generally in great abundance during the months of March and April. These plants should have a well-drained or, in other words, a deeply drained soil, a declivity with a northern aspect, and plenty of granite or slate chips distributed on the surface. The soil in which they are planted should be gritty loam, also freely mingled with granite chips. Of this group S. pyrenaica seems the most difficult to grow. As pot-plants, all the oppositifolias are very beautiful. They should have at least one-third of the pot filled with granite chips for drainage, and the rest with gritty loam. They should have copious supplies of water in the summer, to keep them in perfect health. They can stand full exposure to light and air, but the less hot sun the better. The best varieties are S. oppositifolia major—a discovery of Mr. James Backhouse on our English mountains—and S. oppositifolia pyrenaica, of which there are two fine-flowered forms, known in gardens as maxima and superba.

I do not know to which section S. sancta belongs—it does not flower well with me. I should therefore be glad of any hints which more successful growers can give, to ensure success with this very interesting species. The Megasæas, or large-leaved and large-flowered section, sometimes not included amongst the true Saxifrages, are well known to everyone. They grow easily everywhere. The finest forms are S. cordifolia purpurea (Miss Hope's variety), the lovely and early-flowering S. Stracheyi, which is hardy, but apt to be cut off with spring frosts, and the Himalayan S. purpurascens. The last two require to be grown on warm, sunny borders. There are, in this section, many pretty hybrids, raised by Max Leichtlin and others. Of these, I would mention S. speciosa with flesh-coloured flowers, and S. Inglerestii, which is the earliest to flower after S. Stracheyi.

I may mention that in the preparation of this short paper I am indebted to the practical help of Mr. Pritchard, under whose care the fine collection, formed by the late Mr. Atkins of Painswick, which passed to me, has suffered no deterioration.

CULTURAL AND DESCRIPTIVE NOTES ON THE GENUS SAXIFRAGA.

By Mr. G. Reuthe, Tottenham.

[Read March 12, 1889.]

As the scientific aspects of this genus have already been treated of, I shall content myself with drawing attention to a few of the best members of it suitable for decorative and garden purposes, and I shall endeavour to give a few hints in regard to their cultivation.

Before attempting to grow Saxifrages, or, indeed, any plants, we ought to know something of their requirements—whether they are found in their native habitats in moist, dry, shady, or sunny positions. For instance, if we plant S. Fortunei and S. longifolia in the same position, it would undoubtedly end in failure with either the one or the other. We find the species of the Euaizoonia and Kabschia sections (representing the encrusted Saxifrages), which, in my opinion, are the most interesting and showy of this genus, are, with few exceptions, natives of the higher Alpine regions, covering the most inaccessible peaks, growing in fissures and on *débris* of rocks, at an altitude of from 6,000 feet to 9,000 feet. These mostly prefer limestone rocks, although a large number also grow on granite, gneiss, dolomite, marble, and even sandstone. Again, S. oppositifolia is found growing on high mountains on the shady and damp side of rocks, often covering large areas with a beautiful carpet. On the other hand, S. petræa and S. hederacea inhabit deep, dark, and damp caves of a very low temperature. S. Fortunei, S. pennsylvanica, S. peltata, and others are found growing in swamps and low and damp ground, whilst members of the section Megasæa, are found both on exposed hills and in valleys.

The most favourable time for replanting and propagation, either by division or seed, is in the early spring. A few of the mossy Saxifrages and the more robust of the encrusted species might be propagated almost at any time. The propagation by division is best done in the open, in light sandy soil under a hand-light. Under such circumstances the plants soon make roots; but some should be left here for at least a year before being removed. Seeds should be sown early in February under a bell-glass in light soil, and kept fairly damp; the young seedlings should be pricked out in pans or in a frame under glass, and left there until they are large enough for planting or potting. Plants raised in this way are more vigorous and less liable to die than collected plants. The following are the best and most distinct kinds of Saxifrages:—

Sect. EUAIZOONIA, Schott.

Plants belonging to this and the section Kabschia, as representing the encrusted species, although, as I mentioned before, natives of high altitudes, and almost invariably found growing on limestone, are easily managed, even in our smoky London climate. Some of the more difficult subjects should be planted on the rockery; the more vigorous, such as S. longifolia, S. Aizoon, S. Cotyledon, &c., do fairly well as border plants in light soil mixed with pieces of limestone and sand, and some of these make beautiful pot plants.

S. longifolia, Lap.—This is perhaps the most popular and certainly one of the finest of this section. The leaves are long, glaucous, and arranged in rosettes. The flowers are pure white, slightly spotted with purple, arranged in a pyramidal panicle a foot or more in height. Hab. Pyrenees, limestone rocks.

S. crustata, Vest.—A very pretty species; leaves spatulate and glaucous, in small rosettes; flowers white. Hab. Alps of Tyrol and Carinthia.

S. Hostii, Tausch.—Leaves glaucous and crenulate, arranged in rosettes; the flowers paniculate; white, spotted with purple. Hab. Maritime Alps, on limestone rocks.

S. lingulata, Bell.—Allied to S. longifolia. Leaves spatulate, in rosettes. Flowers in a corymbose panicle, pure white. Hab. Maritime Alps and Apennines, on limestone rocks.

S. lantoscana, Boiss. et Reut.—Leaves glaucous, in small rosettes; flowers arranged in pyramids, pure white. Hab. Alps of Lantosca. A very pretty plant is the variety *superba*, with very dense and large flowers. The varieties *catalaunica* and *cochlearis* are also both very fine plants, and well worth growing. These latter inhabit the Mediterranean district on limestone rocks.

S. Aizoon, Jacq.—Few species vary more than S. Aizoon, and few intercross more readily. The leaves are mostly spatulate, glaucous, and arranged in dense rosettes. The flowers appear in panicles, white, spotted with purple. As a rule they inhabit high mountains, but are not uncommonly found in low valleys. The hybrids and forms of S. Aizoon are too numerous to be mentioned here. All succeed in a well-drained border, or better still on the rockery; and on account of their vigorous habit and rapid growth they are invaluable for that purpose. Hab. The Alps, on rocks of gneiss, trachyte, and granite.

S. Cotyledon, L.—The leaves are long, spatulate, deep green. The flowers, in pyramids from 1 to 2 feet in height, pure white, rarely spotted with purple. This is one of the most beautiful of Saxifrages; it is easily increased by division or by seed, and is of a rapid growth. Our Continental friends grow it extensively as a market plant. Hab. The Alps, Pyrenees, Jura, and Central and North European mountains. The variety *pyramidalis* (often wrongly named *nepalensis*) falls under this species, and, like the varieties *gracilis* and *elongata*, differs only slightly from it.

S. mutata, L.—Leaves lingulate, deep green, in rosettes; flowers yellow. Hab. The Alps. In the summer of 1877 I found several fine specimens on the La Dôle of the Jura. In the foggy London climate it is liable to rot during mild winters, and requires protection from excessive moisture.

S. florulenta, Moretti.—Leaves narrow, lanceolate, pointed, deep green; in rosettes. The flowers are said to be rose-coloured, but I have never had the pleasure of seeing the species in bloom. This is a most difficult plant to grow. At first the young plants seem to do fairly well, but afterwards dwindle away. It is seldom met with in cultivation. Hab. Maritime Alps.

Sect. KABSCHIA, Engl.

The members of this section are easily distinguished from the above by their smaller rosettes, which, in such species as *S. squarrosa* and *S. cæsia* grow so close into one another as to form quite a pyramid. They are all very pretty, and succeed fairly well, near London, on a rockery or in pots.

S. Kotschyi, Boiss.—A rather small plant, with green rosettes of leaves. An exceedingly pretty species. Flowers deep yellow. Hab. Mountains of Asia Minor.

S. media, Gouan.—Leaves spatulate, forming beautiful rosettes; flowers purple or flesh-coloured. Hab. Dalmatian Alps and Balkan.

S. Rocheliana, Sternb.—Leaves glaucous, small, obovate-spatulate, in dense rosettes. Flowers white, corymbose, and very pretty. Hab. Transylvania. The variety *coriphylla* is a very fine free-flowering plant, and easily managed.

S. Spruneri, Boiss.—A species very rarely met with in cultivation, though it appears to be plentiful in its native habitats. The flowers are white and very pretty. Hab. Greece, Mount Parnassus.

S. diapensioides, Bell.—An exceedingly pretty species, with small tufted leaves. The flowers are pure white and terminal. The scape and base of the leaves are of a beautiful purpled pink colour. Hab. Alp of the Dauphiné.

S. scardica, Griesb.—Leaves rosulate, small, oblong, acute; flowers flesh-coloured; calyx, base of the leaves and hairs purple. Hab. Greece, Mount Parnassus.

S. arctioides, Lap.—Leaves glaucous, small, in rosettes; flowers corymbose, white. Hab. Pyrenees.

S. squarrosa, Sieb.—A minute but very pretty and highly interesting species; leaves very small, elliptical, squarrosely imbricated, glaucous; flowers white. Hab. Alps of Tyrol, on dolomite rocks.

S. cæsia, L.—Leaves small, glaucous, in rosettes, and densely crowded into pyramids; flowers small, pure white. Hab. Pyrenees, Mont Blanc.

S. valdensis, D.C.—A very pretty species, with short, glaucous leaves, and pure white, corymbose flowers. Hab. Very common on Mont Blanc. I found it in 1887 in several places on Mont Blanc and Alps of Haute Savoi.

S. Vandellii, Sternb.—Leaves deep green, or slightly glaucous, short; flowers very pretty, white, veined red. Hab. The Alps.

S. Burseriana, L.—Leaves glaucous, densely tufted; flowers white, usually solitary. This is one of the prettiest plants of the genus. In its native habitats it forms large specimens several feet across. It is the first in bloom, often in mild winters flowering in January. Hab. Alps of Tyrol, on dolomite rocks. The variety *major* is a very fine large-flowering plant, freer in bloom and more vigorous than the type.

S. sancta, Griesb.—With deep green, lanceolate leaves, but in general appearance resembling the mossy saxifrages; the flowers are small and yellow. This species prefers a damp, half-shaded position on the rock-work, and is of very rapid growth. Hab. Greece, Mount Athos, on marble rocks.

S. juniperifolia, Adams. With subulate, deep green leaves; fine spicate flowers of a deep yellow colour. Hab. Caucasus.

Sect. PORPHYRION, Tausch.

This section includes some of the prettiest of the early flowering Saxifrages. Unfortunately, they do not seem to be very happy in our London climate. They are very easily increased by division, and, being of rapid growth when at home, they form dense evergreen carpets, presenting a most beautiful sight during the early spring months.

S. oppositifolia, L.—This has a creeping stem and small, opposite, oblong leaves of a deep green colour. The flowers are sessile and deep purple. Hab. On nearly all the mountains of Europe, North of Asia, and America.

Var. *major* (pyrenaica), with much larger flowers, and vigorous growth. Hab. Pyrenees. Var. *alba*, with milky-white flowers. Hab. The Alps. Var. *splendens*, with bright purple flowers; exceedingly free-growing. Hab. The Alps.

S. retusa, Gouan.—Leaves imbricate, oblong; stem, creeping; flowers sessile, purple. Hab. The Alps at very high altitudes on gneiss.

S. biflora, All.—This much resembles *S. oppositifolia*, but the leaves are less dense, stem more erect, and flowers deep purple. Hab. The Alps at very high altitudes on moraines of gneiss, granite, &c.

Sect. HIRCULUS, Tausch.

Nearly all species of this section are natives of the Himalaya at altitudes of 12,000 feet to 15,000 feet, growing in very damp and cool places. Only few of these are at present in cultivation.

S. Hirculus, L.—Leaves lanceolate or spatulate, with a creeping stem; flowers sessile, bright or deep yellow. Hab. Alps of Tyrol, Arctic regions, also a native of Great Britain in damp situations.

S. diversifolia, Wall.—Leaves ovate; flowers racemose, deep yellow. Hab. Himalayas.

Other species of this section, natives of the Himalayas, are *S. palpebrata*, *S. cordigera*, *S. lychnitis*, and *S. latiflora*.

Sect. DACTYLOIDES, Tausch.

This includes a great many kinds known under the popular name of Mossy Saxifrages. They are principally grown on account of their evergreen foliage and neat habit, forming dense green carpets. They grow easily in almost any kind of soil or situation, and are very useful for edging, &c. Increased by division and seed. The best of them are the following:—

S. muscoides, var. atropurpurea.—With pretty, small, purple flowers; very neat and distinct. Hab. Swiss Alps.

S. Camposii, Boiss. (S. Wallacei, Hort.).—Leaves flabellate, 5-cleft; flowers large white. Hab. Spain.

S. Maweana.—Leaves orbicular, 3-cleft; flowers white. A very pretty and rare plant. Requires a damp, shady position. Hab. Tetuan.

S. Reuteriana, *S. trifurcata*, *S. sedoides*, *S. aquatica*, *S. pedatifida*, *S. pedemontana*, and a great number of other species and forms are all very pretty.

Sect. ROBERTSONIA, Haw.

Although not so pretty as the preceding, yet, on account of their distinct and pretty foliage, their hardiness and great tenacity, they are very useful for edging and for covering exposed places in borders and on the rockery. They are, moreover, well adapted to our London gardens. Increased chiefly by division.

S. umbrosa, L.—Leaves orbicular, leathery, and deep green; flowers paniculate white, spotted purple. Hab. South Europe.

S. cuneifolia, L.—Leaves thick, cuneate, deep green; flowers white. Hab. The Apennines.

There are a great many more species and varieties included in this section, such as *S. Geum*, but they are far too numerous to be enumerated here.

Sect. DIPTERA, Borkh.

The plants included here are, with the exception of two species, *S. Fortunei* and *S. cortusæfolia*, stolon-bearing species, extremely useful for decorative purposes in baskets or pots. They are easily increased by division of the stolons and seeds. They generally require a slight protection during winter.

S. Fortunei, Hook.—Leaves thick and fleshy, reniform, smooth on the surface, hairy beneath; flowers paniculate white, very pretty; one of the latest autumn flowering plants. It should be treated as a bog plant. Hab. Japan.

S. cortusæfolia, Sieb. et Zucc.—This much resembles Fortunei, but the leaves are orbicular and reniform. Flower white. Hab. Japan.

S. cuscutæformis, Lodd.—Leaves orbicular, glaucous and hairy; stem creeping, stoloniferous; flowers paniculate white. Hab. Japan.

S. sarmentosa, L.—Stoloniferous. Leaves orbicular glaucous; flowers white. Hab. Japan.

Sect. BORAPHILA, Engl.

These species are less attractive than the preceding, many of them, in fact, are merely botanical curiosities. Propagated by division or seeds.

S. Mertensiana, Bong.—Leaves cordate, deciduous; flowers white, very pretty. Hab. California.

S. pennsylvanica, L.—Leaves lanceolate; flowers small, yellow, on long flower stalks, two to three feet long. Hab. North America.

S. virginica, Nutt.—Leaves spatulate, rather thick and crenate; flower white, in a clustered cyme; the variety with double flowers is a pretty garden form. Hab. Virginia.

Sect. MISCOPETALUM, Tausch.

Hardly any of the species and numerous varieties included here can be called pretty, and they are seldom grown outside botanic gardens. They will succeed in the ordinary border, and are increased by seed, which is often produced in enormous quantities.

S. rotundifolia, L.—Leaves reniform, hirsute; flowers white, in panicles. Hab. the Alps.

Sect. ISOMERIA, Torr. et Gray.

Nearly all these are very pretty, and easily grown in a damp border. A great many are splendid foliage plants. Increased by division of the rhizomes and by seed.

S. aconitifolia, Field, (Boykinia aconitifolia, *Nutt*).—Leaves orbicular, hairy; flowers white, in a clustered cyme. Hab. North America. The true plant is rare.

S. ranunculifolia, Hook.—Leaves orbicular; flowers white. Hab. North America, on low, damp ground.

Sect. PELTIPHYLLUM, Engl.

Only represented by a single species. Easily increased by division of the rhizome or by seed.

S. peltata, Torr.—Leaves large, peltate, glandular; petiole one to two feet long; flowers pale pink in a dense cyme. A deciduous species, flowering in the early spring when without foliage. It prefers a damp, shady position, and is, undoubtedly, one of our best foliage plants. Hab. California, near rivers.

Sect. CYMBALARIA, Griseb.

Either annuals or biennials, rarely perennials; easily increased by seeds.

S. Cymbalaria, L.—Leaves reniform; flowers bright yellow. Hab. Himalaya and Caucasus, in damp and shady places.

S. Sibthorpii, Boiss. et Spruner.—This differs only slightly from the above.

Sect. TRIDACTYLITES, Haw.

Nearly all of this class are merely botanical curiosities, and on this account hardly worth growing, though they are very interesting.

S. petræa, L.—Leaves fleshy, palmatifid; flowers pedicellate, white. Hab. The Alps, in very high altitudes, in dark and damp caves, and the north side of rocks. Propagation by seeds.

S. adscendens, *S. tridactylites*, and several others, are all very interesting.

Sect. NEPHROPHYLLUM, Gaud.

These are very distinct, and some of them very showy; they differ from the preceding by their deciduous bulbiferous habit. They prefer shady and damp positions, slightly protected. Increased by bulbs.

S. granulata, L.—Leaves palmate, hairy; flowers large white. Hab. The Alps, and many parts of this country. The variety *flore-pleno* is a pretty garden form with double flowers; very useful for cutting.

S. cernua, L.—Leaves palmate; flower white. Hab. Spain.

S. irrigua, M.B.—Leaves palmate, 5-parted; flowers white. Hab. Caucasus.

Sect. TRACHYPHYLLUM, Gaud.

A great many of these are not only very interesting, but also very beautiful. Unfortunately, very few are at present under cultivation. They are easily increased by seeds and division, and succeed best in a damp and shady position, in light sandy loam.

S. flagellaris, Wild.—Leaves spatulate, in rosettes, often ciliate; flowers yellow. Easily increased by division of the stolons. Hab. the Caucasus.

The following are equally pretty:—*S. bryoides*, *S. bronchialis*, *S. tricuspidata*, *S. aspera*, and *S. aizoides*.

Sect. MEGASÆA, Haw.

The Saxifrages known under the name of Megasæa contain some of the best and most showy of the genus. They are, with few exceptions, quite hardy, and are invaluable as border or pot plants, especially in the neighbourhood of London. They constitute, in fact, the very best and most suitable of town plants, in spite of neglect and rough treatment. Propagation by division and seed. The following I can recommend as the best:—

S. cordifolia, Haw.—Leaves cordate, very thick and leathery; flowers rosy purple, large, and as in the following in dense cymes. Hab. Siberia.

S. ciliata, Wall.—Leaves cordate, ciliate; flowers large pink. This species requires a slight protection during the early spring. Hab. Himalaya. There is a variety *alba*, with white flowers.

S. purpurea (S. cordifolia purpurea).—A garden variety, with leaves very large, thick, and leathery; flowers large, deep purple. The most vigorous, showy, and hardy of the Megasæas.

S. speciosa.—Leaves large, subcordate; flowers large, bright pink. A very pretty species.

S. Stracheyi, HK. fil. et Thoms.—Leaves cordate, ciliate; flowers flesh-coloured. Requires protection. Hab. Himalaya.

S. Milesii, Baker.—A plant of garden origin, with small, white flowers.

S. purpurascens, HK. fil. et Thoms.—A very rare and pretty species; unfortunately of very slow growth; flowers bright purple. Hab. Himalaya.

HISTORICAL NOTES ON DUTCH HYACINTHS.

By HEER A. E. BARNAART, Haarlem.

[Read March 26, 1889.]

IT is said by botanists that our present garden Hyacinths are derived from *Hyacinthus orientalis* imported from the Levant. Loudon states it is abundant about Aleppo and Bagdad. Pickering announces it was seen by Gittard in the Peloponnesus. Some consider it likely that Hyacinths were brought to Constantinople, where the taste for flowers excelled, about the middle of the fifteenth century, from whence they would have found their way by Italy and Germany into Western Europe. It is also possible they were brought over by the Crusaders to Italy and the south of France, as the Ranunculus asiaticus seems to have been. Paxton and a good many others confirm the fact that Hyacinths came from the Levant, and state that *Hyacinthus orientalis* was introduced to us in the year 1596. I believe that they must have been imported much earlier. Clusius states in 1611 that they were introduced in 1585; but the fact that they were already mentioned as grown in the Leyden botanical garden in the first manuscript catalogue by Peter Paauw, of the year 1600, and the fact that in another catalogue (also a manuscript catalogue) of 1602 that they cultivated several varieties of Hyacinthus orientalis, amongst which the same Peter Paauw describes one as Hyacinthus orientalis *flore luxuriante*, go to show that they grew them already in quantity in 1600, and they had one *flore luxuriante* in 1602. We may therefore assume that they had been cultivated many years before the time mentioned by Clusius; at any rate the progress made in the fifteen years appeared to be too great for that period. But we have another proof. Matthias de Lobel, in 1576, stated that "the best Hyacinth known in Holland was the Hyacinthus brumalis, which," he says, "got later the name of Orientalis albus." His speaking of the best Hyacinth in Holland, I think, proves that there must have been, besides that variety, some other Hyacinths, and consequently those must have been introduced before 1576. It is rather difficult to say whether this *H. orientalis albus* was a species or a variety. If it were a species, it was most likely the same as Hyacinthus romanus. At least, when we compare those described by Miller as *Orientalis brumalis præcocissimus flore albo* and *Orientalis brumalis flore pallido cæruleo* with the engravings in Swertius or in Besler's "Hortus Eystettensis," we find them in habit and form very like our well-known White Roman Hyacinth. Probably, therefore, Miller made a mistake in saying that these Brumalis forms were derived from Hyacinthus anglicus. Miller himself says that this early white was commonly called Januarius, and the pale blue Imperialis. Fuchs tells us that they flowered in his garden in December; and Peter Hondius states in his most curious book, "The Muizenschans," published in Dutch in the year 1621, that amongst the different kinds of Hyacinths, the finest were imported from the Oriental countries, being far finer than those from England; and when he later mentions as a curiosity, that under some circumstances they even flower in winter, then, I think, there can be no further doubt about their identity.

Besides the Brumalis forms, Matthias de Lobel describes the following different forms of Hyacinths, viz. *Hyacinthus orient. græcus, H. purpureus rubens, H. major polyanthus, H. Zumbel Indi, H. Constantinopolitani, H. præcox dilutiori.* These you will find in the engravings of Swertius's "Florilegium" of the year 1612; and of those of Besler's "Hortus Eystettensis" of 1613. They prove the difference between the varieties, and show you that they had already a good many forms of Hyacinths even in those days. The question is, Whence came they? It is not impossible that they were introduced in different forms and colours from their native country. I prefer, however, to believe that the different colours and forms were the result of natural crossing in Europe. At that time botanists were unacquainted with the distinguishing peculiarity of plants, and crossing was only possible by accident. This may have taken place just as well in the wild as in the cultivated state; it is more probable, however, that they were natural crosses, obtained under cultivation in some garden or other.

If we consult Lauremberg's "Apparatus Plantarius" (1631), we find he only speaks of one species, viz. *Hyacinthus orientalis.* He describes, however, several different Hyacinthus, amongst which he mentions one as *præcox pleniflorus cæruleus*, another as *pleniflorus candidus,* and a third as *præcox prolifer duploflore albo virescens.* These three we may safely take as varieties or forms of the species already mentioned.

It is strange that Camerius, in his edition of Matthiolus of the year 1611, makes not the slightest mention of double Hyacinths, while Clusius speaks about the same time of *Hyacinthus orientalis flore duplici* as having a large and strong bulb with fifteen double blue flowers. This most likely is the same plant figured by Besler as *Hyacinthus orientalis flore niveo.*

My conclusion is that all the Hyacinths described about that time were nothing but varieties of the original mother species *Hyacinthus orientalis.* This mother species may have been white, purple, blue, or pink. We appear to be as much in the dark about the actual colour as about the time of its introduction to Europe.

Dioscorides tells us that the stems were bending under " the heavy purple flowers," but we are not certain what were the Hyacinths described by Dioscorides. Even if he had the Hyacinthus orientalis in view, the difficulty still remains to decide its colour, as who is to make it out, whether it was purplish-red or purplish-blue. Peter Hondius speaks more decidedly of blue and white Hyacinths ; but as long as we are not certain about the original introduction, the question of colour cannot make much difference ; for if we must accept that the first described plants were hybrids, it is of little importance whether they were blue, red, or white.

Your countryman the well-known Philip Miller expressed the opinion that Hyacinths could be cultivated just as well in England as in Holland. This opinion found a warm supporter in George Voorhelm, of Haarlem, who states it in his very interesting little book on Hyacinths. In spite, however, of these opinions, Holland, or more properly, Haarlem and its immediate neighbourhood, has become the head-quarters of Hyacinth culture. I do not deny, however, that they can be cultivated very well in England.

During the great Tulip mania little attention was paid to the Hyacinth. It was only during the middle of the last century that we find attention again being paid to our plant. The Haarlem florists did not, however, neglect their business, and that they had made wonderful progress is shown to us by St. Simon, in his marvellous book on Hyacinths of the year 1768. In this he enumerates about 2,000 varieties. When, again, we look through the little book by George Voorhelm, which appeared in 1752, we find a very large number of single and double varieties described, amongst which there are some very fine double spikes, excelling in form and beauty even many we have now.

It is very interesting to note that George Voorhelm's grandfather did not cultivate a single double Hyacinth. He always destroyed all the double ones which appeared amongst his seedlings even before they had quite opened ; but finding once a double flower, which accidentally had escaped destruction, he perceived its great beauty and superiority, and cultivated it. From that time florists and amateurs paid more attention to double varieties, and I think they were right. Double Hyacinths were also at that time sought for in England. James Maddick speaks of them in the "Florist's Directory," and we find that "The King of Great Britain" was sold for nearly 120*l*. This is most likely the same double white Hyacinth described by Miller. But the question of single or double flowers is entirely a matter of taste.

We know, however, by experience that the fine double varieties lose their flowers by moving; but to my mind a good compact double Hyacinth is far finer than a single one, and I hope that the fashion for double flowers will once more appear.

In order that Hyacinth culture may keep pace with the requirements of the times, we shall have to divide the different varieties into classes, beginning with two main groups, viz.: those for in-door and those for out-door culture.

The first group should include those Hyacinths suitable, in the first place, for cutting purposes or other light work. These must be able to compete with the French Roman Hyacinths. For this purpose they should be very early and lax in the flower. I should like to recommend for this purpose such varieties as La Neige, Ida, and Pélissier. The other in-door Hyacinths must contain nothing but the very best large-flowering double and single varieties.

The out-door Hyacinths should be used for carpet-bedding to form a mosaic pattern of striking colours. The bulbs for this purpose may be small, and therefore cheap, but they should be selected carefully from good free-blooming varieties, and especially cultivated for the purpose. The other out-door Hyacinths should be composed of good full-sized bedding bulbs of good striking colours and good upright standing varieties to be grown as specimens for garden decoration.

Perhaps you will think that there is but a small difference between this and the old system, but I should require too much of your time if I would fully explain the subject.

As long, however, as the public buys bulbs which are not adapted for the purpose required, the Dutch farmer is obliged to go on growing his Hyacinths without regard to their ultimate use, and thus through no fault of his own he often fails to do justice to his clients.

[Mr. J. G. Baker, F.R.S., F.L.S., of Kew, has been good enough to read the above paper, and he has furnished, at the request of the Editors, the following note thereon :—

There is no reason to believe that the Hyacinth of the Greek and Latin writers covered *H. orientalis.* Fée argues the matter elaborately, and concludes the Hyacinth of Virgil was Lilium Martagon. In the Renaissance herbals "Hyacinthus" covers various species of Hyacinthus, Muscari, and Scilla, of which three genera there are at least twenty species that grow wild in the South of Europe.

Hyacinthus orientalis extends as a wild plant from Cilicia, where it ascends the mountains to 7,000 feet, eastward to Mesopotamia. It is frequent in Palestine and Syria, especially on the lower slopes of the Lebanon range. All our wild specimens in the Kew Herbarium have Hyacinth-blue flowers; but, doubtless, like many of its allies, it varies in a wild state to mauve and white. There is a sub-species, called H. provincialis, wild in Provence. Of this, Jordan and Fourreau figure five forms; and from one of these—viz., H. albulus of Jordan; not from the oriental plant at all—I believe the early white "Roman" Hyacinth to be descended. This must not be confounded with the Hyacinthus romanus of Linnæus.

The true *Hyacinthus orientalis* is well figured (two woodcuts, life size) under that name in the Venetian edition of the New Kreuterbuch of Matthiolus, published in 1563. He says (p. 455) that he received from "dem hochgelerten Jacobo Antonio Cortuso von Padua," and that "das hat er aus orientischen Landen bekommen." Nine forms are figured in colours by Swertius in his "Florilegium" in 1620: viz. four single blues, four single whites, and one double white. He figures also, under the name of Hyacinthus, more than twenty other garden plants which do not belong to H. orientalis at all.]

THE CULTIVATION OF HYACINTHS IN HOLLAND.

By Heer J. H. Kersten, Haarlem.

[Read March 26, 1889.]

Having been invited by the Council of the Royal Horticultural Society to read a paper on Hyacinths and their Culture, I deem it an honour to have the opportunity to tell you all I know about them.

In the first place, I will speak about the natural history of the Hyacinths; in the second place, I will tell you how they are treated in Holland when grown in pots for show purposes; and, lastly, I mean to give you an idea how they are grown and prepared for the English market.

The Hyacinths, which form nowadays such an important branch of the Dutch-bulb industry, are known botanically as Hyacinthus orientalis.

The Hyacinths from Paris and the Roman Hyacinths are supposed to have been imported from Holland into France, and are nothing more than varieties of this same Hyacinthus orientalis.

Their native country is supposed to be the Levant, and more especially the environs of Aleppo and Bagdad, where they were found growing in moss in the meadows, which were inundated in early spring and dry in summer.

Imported into Europe, they were grown and planted by the Dutch, but when this first took place is very difficult to state. There is no certainty whatever about the date, and all we can say is that it must have been in very ancient times, as they were found in large quantities in Holland in the beginning of the seventeenth century.

The original colour of Hyacinths is said to have been blue, and this we know is the colour of the wild Hyacinths which are found in the woods throughout Europe. But there are some who undertake to say that red must have been the original colour, based on the name of the plant. What connection, however, they can see between the red colour and the word Hyacinth I declare I do not know.

At the present time we distinguish three different forms of Hyacinths—namely, single, double, and semi-double Hyacinths.

In 1582 a white variety was raised from seed. In 1614 there were already single red, white, and blue varieties, and also double ones. In 1596 Gerard, in England, must have been in the possession of single and double blue, purple, and white varieties. But it is very likely that all these colours and forms were imported from the Levant. The first variety, however, of a lilac colour was raised in this century, and was a sport of a red one. A Dutch fancier, called the Rev. Mr. Boekenhoven, found one day amongst his flowers of the single red variety

Herstelde Vrede, one that was quite the same in shape of bulb and form of flower, with the only difference that it was of a lilac colour. This was the first flower in this shade, and he was so afraid to lose the root, that he put it in a bird-cage and hung it at the ceiling so as to prevent mice and rats from reaching it. The name of l'Unique was given to it, and this variety is still one of the leading sorts. After this it was an easy matter to raise seedlings of the same colour, and great are the improvements which have been made since.

As to the origin of the yellow-coloured Hyacinth there is no certainty; but in an old copy of a catalogue of 1767 I have found five different single varieties, and in another of 1788 eight double and thirty-eight single yellows are mentioned. During the present century great improvements have also been made amongst yellow-coloured Hyacinths.

The artificial method of cultivating Hyacinths is also of ancient date, for in 1768 we find they used at least two different modes of multiplying.

Amongst the ancient growers of Hyacinths the names of George Voorhelm, who lived in 1752, and previously Pierre Voorhelm, are certainly the most familiar.

Fabulous prices were sometimes paid for Hyacinths. In 1734, only one year after the very foolish tulip-mania, at a public auction the important sum of 133*l.* 8*s.* 6*d.* was paid for one large bulb and eight small ones of the double blue variety Non plus Ultra. Even at the beginning of this century enormous prices were paid. For one single root of the double red Rouge éblouissante a certain Monsieur de Faesch paid 1,000 guilders, or about 83*l.* These figures prove that there were people who cared to invest considerable sums of money in the bulb trade, feeling sure they would get their money back with interest. The end has proved that there was a future for Hyacinths as a branch of industry in Holland. In the first place the favourable nature of the soil in Holland enabled the Dutch to compete on very favourable terms with any other country that might undertake to grow Hyacinths; and in the second place the natural advantages of climate and the aptitude of the people indicated that as soon as a certain quantity of plants could be provided there was a certainty that the Hyacinth trade would become a large industry.

Hyacinths can be forced very well in rooms. They will grow without much light and air, and the time for flowering is governed by such a mighty law that very cold or warm weather does not seriously affect it. Much food flowering Hyacinths do not want. They have already a good portion of food present in the bulb when exported. When left too long out of the ground they will make growth, even when on shelves; and the fact that they do just as well in clear water as in pots is a proof that they have a large reserve of food contained in them.

Hyacinths cannot, however, be kept over a year when they have not flowered. The food which the bulb contains does not last longer than January, as bulbs planted after that period die as a rule, and produce nothing whatever.

At the present time there are about 570 English acres of Hyacinths under cultivation in Holland, and at least 5,000 men (labourers and dealers) are engaged in this branch of the Dutch flower-trade.

The Dutch people do not fear competition in the cultivation of Hyacinths, so sure are they of the many privileges which nature has given them in dealing with this particular industry.

I will not dwell long on the subject, how to treat bulbs in pots or in glasses; for in the matter of forcing Hyacinths the English nurserymen can nowadays very well give a lesson to the Dutch. I would only wish to say that to keep the soil moderately damp is one of the first necessities, as during the growth of the bulb it requires a great supply of moisture. It is not wise to force Hyacinths too early, as this can only be done at the price of obtaining a small flower. When in glasses, one-fourth of the bulb must be in the water, and sufficient care must be taken that there is always enough water to touch the bottom of the root. Complaints are sometimes made of decayed flowers, and of shoots flowering in the sheath of the leaves; in both cases it is want of care in treatment that makes them come in such a poor state, as every healthy bulb treated with a little skill will give no difficulty to bring it into the desired condition. It is, of course, of great importance to secure those bulbs which are thoroughly ripe and of sufficient age. Although every healthy bulb contains a flower, large or small, it yet can make an enormous difference whether they are obtained from reliable and careful growers or not.

The way of forcing Hyacinths for show-purposes in Holland is so entirely different from the way which is generally adopted in England, that I cannot pass this subject without a reference to it. First of all, the bulbs are planted in as small pots as possible in the beginning of October. They are then plunged in soil, and when frost sets in they are covered so that the frost cannot touch them. About six weeks before the date of the show a bed is made of fresh horse manure, which is left a fortnight in order to get properly hot. After that, frames are put on such a hotbed, and the horse manure is covered about one foot with anything that will allow the heat to pass easily through, such as peat, cocoa-fibre, &c. In this material the pots are plunged very near to the glass, and the frame is always left open to allow the superfluous damp to escape, which would otherwise harm the bulbs when too hot. In this way there is always plenty of steam about the roots, which makes the foliage open easily and the flower fat and tender. When they are grown a little the frames are raised, but not more than is necessary to keep the plants as near to the light as possible. After two weeks the earliest are in bloom, and during the next fourteen days they are kept in a cool place, in order to fully develop.

The Dutch like the blooms to appear as dwarfish as possible, that is to say, as near the pot as they can get them. There is, however, some reason for doing so: they always show their Hyacinths in the pots in which they are grown, which they place next to each other, and do not re-pot into larger ones as our English friends do.

In this country I am told gardeners force their Hyacinths in hot-houses, and do not always plunge the pots in cocoa-fibre, but put them on shelves. Some experiments which were recently made in Holland in this line did not suit us, chiefly for the reason that the flowers were too much grown and lax, and not so dwarfish (compact) as we should have liked them.

The reason that Holland, which has very much the same climate as England, is more suitable for Hyacinth-growing is due to its light and sandy soil; but after all it is only a small portion of Holland which favours this industry. The best soil for Hyacinth-growing is found in that part of Holland situated along the sandhills between Haarlem and Leyden. There the soil is of such a nature that the rain runs easily through it, and yet retains moisture without getting too wet. In case of want of rain there are plenty of canals and ditches which prevent the gardens from drying up too much.

Formerly a Dutch bulb farmer occupied his grounds once every three years, but nowadays he is obliged to plant his garden every other year in such a way that he divides it into two parts; when one portion is used for Hyacinths, he has an opportunity for digging and manuring the other portion. He only uses cow-manure and plants potatoes first, as he says the manure must in no case be too fresh. Reed-grass is used as cover, and this is taken off gradually as the Hyacinths show themselves above the ground.

The best time for planting is the end of September, but nowadays the stocks have become so large that planting takes quite two months. The general idea is that what is planted after the 1st of November is not worth much. In the middle of April the plants as a rule are in flower, and after remaining a few days in bloom the flowers are cut off. The plants are left in this condition till they are ripe for lifting, which for young Hyacinths is about the beginning, and for old ones the end of June. After this they are brought into the warehouses and put on shelves in order to dry properly. There they rest not longer than six weeks, in which time packing and exporting is finished, and as soon as possible they start planting again.

Hyacinths are exported nowadays in four different sizes—(*a*) First-sized roots are the largest and soundest, best-shaped named, bulbs. (*b*) Second-sized roots: sold by the name of Bedding Hyacinths—named. (*c*) Third-sized roots: sold by the name of Mixed Hyacinths, and generally packed in separate colours. (*d*) The smallest size exported are called Miniature Hyacinths, with names; these, although they are small, will sometimes produce fair spikes.

Every bulb, even the very smallest, has to be planted and lifted every year, and also a little slice of the top is cut off before planting in order to see if the bulb is diseased or not.

The flowers, having no value in Holland, are often sent to the English market. This, however, is considered so injurious to the trade in bulbs, that measures are being taken to prevent it. The fact that at last the secret has been found to extract a perfume from Hyacinth flowers may add not a little to remove this grievance.

There are four ways of multiplying Hyacinth stocks:—

(*a*) The oldest method is to allow the bulb to get mature enough, when it will make a lot of young bulbs inside and outside the old root. When lifted, there is very little left of the old bulb. This method is the only natural way of increasing Hyacinth bulbs.

(*b*) The second method, of which you will find some samples here to-day, consists of hollowing a good sized bulb in such a manner that the lower portion is entirely taken out. When properly dried after this action and planted, there are formed a lot of young bulbs inside between the several layers.

(*c*) The third, of which there are also some samples at hand, consists of giving the bulbs three or four cuts across the bottom in such a way that the lines cross each other in the centre, and deep enough so that the bulb is cut half way through. When lifted after they have been planted, such bulbs give rise to a good many bulbils, but though not so plentiful, they are of larger size than the hollowed ones.

The two latter methods are entirely artificial means of propagating; but they are generally adopted, except in a few cases, where the first method is adopted. Some varieties are more easily propagated by hollowing (*b*), and others do better again by cutting (*c*). Propagating by hollowing has the advantage over that by cutting as it yields many more young bulbs. These are, however, smaller, and it takes at least one year longer to grow them of sufficient size. Six years at least are necessary before the young bulbs obtained by hollowing have become large enough to be called first-class bulbs, whereas those obtained by cutting take only four or five years.

(*d*) The fourth manner to obtain young bulbs from the older ones is from seed; but as it takes at least eight years before a grain of seed has grown into a first-class bulb, and it never gives the variety back of which it is a seedling, it is easily understood that this manner is very little used, and even then only by those who wish to raise new varieties, which is not at all a profitable affair.

The first three methods of propagating already described give always the same variety back, with the exception that sometimes a sport is found which is quite equal to the original variety, with the only difference that it has changed from double into single, or from a single to a double, or from one colour to another. For instance, Grand Vainqueur has varieties of the same name in almost all colours, and also with double and single flowers. The double white is a sport of the single white variety. Single rose Charles Dickens, of which there are two sorts, are both sports of the single blue; the true rose variety has lost its blue colour altogether, while the other has still a bluish shade left. Double white Florence (or Miss) Nightingale is a sport of the single variety of the same name and colour. This, however, must not lead you to the belief that all similarly named Hyacinths in different colours have the same ancestor; for instance, the name of Grand Vainqueur will be found amongst almost all colours double and single, and yet they have nothing in common with each other except the before-mentioned double and single white varieties. The fact that different varieties of the same colour have the same name is very often a great puzzle, and it is no easy matter to decide which has the real right to that name. There are, for instance, three different varieties of single blue Queen of the Blues, which are kept distinct in Holland by the additional names of Haarlem, Overveen, or Hillegom Queen of the Blues. Thus we have the pleasure of noting three distinct varieties which are named alike, and yet which is the true Queen amongst all these Queens no Dutchman will undertake to decide.

The trade in Hyacinths being altogether a trade of confidence, it is strange that there are so many wrong ideas as to the choice of varieties. To the very common but altogether wrong idea, that the largest bulb-making variety is to be preferred to any other, I must enter my decided protest. Single Red Norma, for instance—a bulb that sells readily in a shop window—will not do at all for show purposes. If you want a proof look over this exhibition, and you feel convinced that the exhibiting firms here will bear me out. It is astonishing how difficult it is to get people to select the better varieties even when they are of the same price or even cheaper. There is, for instance, single yellow Alida Jacoba, a variety very much sought after, and yet good for nothing. It is a wretched bulb with a narrow spike of a very pale yellow colour. If this is compared with Ida, Primrose Perfection, or Rowland Hill, no one would ever look at it any more. Great progress has been made during the last twenty-five years, but I feel sure it will require another twenty-five years before all the old and worthless varieties have disappeared and other and better varieties have taken their places.

There have always been men whose aim it was to raise seedlings improved as well in shape as in colour. During the last few years a desire is also observed to raise earlier sorts. A man who has caused his name to be not easily forgotten amongst Dutch bulb-farmers of this century is Mr. van der Vinne. He introduced more novelties into the trade than any other man. Amongst the varieties which we owe him we may mention:—

Double Red.—Mary de Medicis (Princess Louise).
Double Rose.—Venus de Medicis.
Double White.—Van Hobooken.
Single Red.—Gertrude, Lina, Incomparable.
Single White.—La Grandesse, L'Innocence, La Neige.
Single Blue.—Czar Peter, Lord Derby.

All these varieties we know are, up to the present time, very difficult to beat, and all of them have in a short time taken the position of leading sorts. In every Hyacinth show you are sure to find one or more specimens of these varieties.

After Mr. van der Vinne came Mr. J. H. Veen, to whom we owe also a good many novelties, such as:—

Double Red.—Koh-i-noor, Susanna Maria, Princess Alexandra.
Double White.—Princess Alice.
Single Red.—Lord Macaulay, Cavaignac, Garibaldi, Howard, Linnæus, Prince Albert Victor, Von Schiller, Vuurbaak.
Single White.—Leviathan.
Single Blue.—General Havelock, Blondin.
Single Yellow.—King of the Yellows, Bird of Paradise.

To Mr. Veen we owe the best of the dark reds which we have in commerce, and as it has been proved to be very difficult to get size and dark red colour combined, it was a happy thought of Messrs. Jas. Veitch & Sons to call a new single blue variety, which was shown and certificated in 1883 at both the Royal Horticultural and Royal Botanic Societies' Exhibitions, after him, by giving it the name of Souvenir de J. H. Veen. After Mr. Veen's death there were only a few firms left who troubled themselves about seedlings. Amongst the varieties of later years which we consider worthy improvements on the old

Double Red.—Disraeli.

Double Blue.—Magnificent.

Single Red.—King of the Reds, La Belle, Mr. Krelage.

Single Lilac.—Challenger, Harlequin, Distinction, The Shah.

Single Blue.—Duke of Connaught, General Gordon, Surprise, Souvenir de J. H. Veen, The Sultan, Electra, Queen of the Blues.

Single Yellow.—Marchioness of Lorne, Primrose Perfection, Queen of the Yellows, Rowland Hill.

The exhibitions held in England have been the means of making known numerous good varieties of Hyacinths, and there are many English nurserymen who also know them now—which cannot be said to have been the case some years ago, when it was so easy for dishonest exporters to sell old varieties for new and more expensive ones with very little chance that their trick would ever come to light. It was a hard thing for people who did not adopt such methods to compete where the terms were so unequal, but first-class exhibitions are the only means of removing this evil. Therefore a word of thanks is due to the Royal Horticultural Society for the assistance we have received from it in showing our improvements to the English public, and for the interest it has shown in our plants by giving them awards and certificates.

THE HYACINTH FROM AN ENGLISH POINT OF VIEW.

By Mr. James Douglas, F.R.H.S., Ilford.

[Read March 26, 1889.]

The Hyacinth was probably introduced into England about the end of the sixteenth century. In the last years of that century an important work on Gardening was published by Mr. John Gerard, a physician of London, entitled the "History of Plants"; and at page 100 there is a plate of the Blue Oriental Hyacinth, but it has only three flowers on its spike. A double variety is also mentioned, having blue or sky-coloured flowers. Gerard also writes of an importation of Hyacinths. He says: "There is come unto us from beyond the seas divers other sorts, whose figures are not extant with us; of which there is one like unto the first of these Oriental Hyacinths, saving that the flowers thereof are purple coloured." A white one is also mentioned as having come from beyond the seas.

In Parkinson's "Paradisus, or The Garden of Pleasant Flowers," 1629, there is a full-page engraving of six varieties of single and double Hyacinths, with from six to thirteen flowers on each spike. They are certainly superior to the poor little thing figured by Gerard, but would not be tolerated anywhere now. Parkinson says all these Oriental Hyacinths had been brought out of Turkey and from Constantinople; but where their true original place is, is not yet understood. The colours described are pure white, blue, and red, and eight varieties in all are described, each of them with about half a dozen names.

The next English author who wrote upon the Hyacinth, and whose work is worthy of attention, was Mr. Philip Miller, gardener to the Worshipful Company of Apothecaries, at their Botanic Garden, Chelsea. The second edition of his "Gardener's Dictionary" was published in 1733; and Miller says many fine double varieties were cultivated.

It is stated by Loudon that no really good double Hyacinths were raised in Holland until the beginning of the last century. A certain Peter Voerhelm was the first to distinguish himself as a raiser. It seems that English influence had been brought to bear upon the raisers of new flowers at that time for Voerhelm's first good seedling was named Mary. His third flower was named King of Great Britain; and it was also described by Miller as having flowers of an elegant rose colour in the middle, and the petals much reflexed. It is greatly preferred to all the flowers known, and in these good old times (for the growers and raisers) the prices were high: King of Great Britain was sold at 2,000 florins, or £100 and up to the middle of the last century the greatest attention was paid to the raising of these double flowers, and as much as 4,000 florins, or £200, was given for a single bulb.

There was also in Miller's time the Queen of Great Britain, the most double variety, with pure white flowers. Other fine double varieties were: the Pulchra, pale flesh colour; the double Cardinal, blue; Claudius Albinus, milk colour streaked pale red; Apollo, flesh colour streaked rose; Claudius Civilis, with flesh coloured spots; Coralline, coral red; the Queen of Flowers, pure white, and the bottom of the rim rose colour; the King of Flowers, very double pure white. Another white variety was named Kaisar's White Jewel; Princess Royal, white streaked red, &c. Loudon states, on the authority of Miller, that the Haarlem growers in his day, about 1725, enumerated 2,000 varieties. They were also much cultivated in England from bulbs sent over from Holland. Miller was, I fancy, the first to protest against purchasing Hyacinth bulbs in Holland. He fancied they could be raised from seeds, and cultivated afterwards better in England. His plan of raising seedlings was to sow the seeds in boxes, and at the end of the first season very small bulbs were formed; these were planted in beds of rich earth, and the bulbs were left in the ground, where they were planted until they flowered, which was commonly in five years after sowing. He gives elaborate directions for their culture out of doors, and adds, "It hath been the want of skill in the management of these noble flowers which has occasioned the ill success most people have had with them in England, whereby they are almost entirely neglected, supposing their roots degenerate when they have flowered in England, which is a great mistake." And as emphasising his own statement, adds that his "very worthy and ingenious friend, James Justice, Esq., near Edinburgh, hath succeeded so well in the management of these flowers, as to equal any of the Dutch florists." His friend also raised many seedlings, amongst them a most extraordinary fine one, which he called the Royal British Star. The height of its stem was twenty inches, upon which were twenty-three flowers, very large and double, of an extraordinary white colour on the upper part of the petals, and the lower part a very deep violet.

Since Miller's time various persons have tried to cultivate the Hyacinth in England for commercial purposes. I have had bulbs sent to me, English-grown, for trial against those sent from Holland; but the result, so far, has been to convince me that the Dutch-grown bulbs are much superior. It may be thought by some that it is unpatriotic to say this, but in a paper of this kind we can but faithfully record the results of our experience, and "facts are chiels that wunna ding."

Culture out of doors.—As far as the preparation of the soil, planting, and general management goes, we may well follow the Dutch growers, except that their arrangement in the beds is not to be desiderated. Their beds, of course, are of immense size, and they begin by planting the largest bulbs of a sort at one end of the bed, and gradually decrease the size of the bulbs, finishing off with very small ones. If the end is in the middle of a row, they begin again with the large bulbs of another variety and finish with the small ones, and the effect of a large bed of many varieties is not very good; but utility rather than beauty is aimed at, and the spikes are cut off almost as soon as the flowers open to allow of the full development of the leaves.

In our English gardens we would plant bulbs of a uniform size, and they would be planted either in beds or borders, the colours mixed, or one colour or variety by itself. Beds of red, blue, or white varieties are very effective, and the single varieties are much to be preferred to the double ones. The nature of the soil is very important, and I must confess that, in this respect, we have none like unto that deep sandy soil in which the bulbs are cultivated in Holland. It is at least half pure white sand, and so light that whole gardens would be blown away if precautions were not taken to prevent it. We can, however, have a deep soil, well manured, and it is easy to add sand when necessary, and also, when planting, place a little clean river sand under and over each bulb. Plant out in October, and the crown of the bulbs should be three inches under the surface.

In Holland, owing to the intense cold, it is necessary to protect the bulbs in winter; but in England this is not necessary, although it was done years ago, when people had to pay as much for a bulb as they can now purchase a hundred for, and every one of the hundred would be better varieties than the one costing so much. The beds were covered in those days by an arrangement of iron hoops bent over them in winter, and mats thrown over the hoops. In spring a light framework of wood was built over the beds, and shading was fixed to it, to run up and down with cords and pulleys, to protect the flowers from driving rain, high winds, and frost. No such pains are taken now, nor is it desirable. I would, however, advise covering the surface of the beds with cocoa fibre refuse; it is cleanly and looks well, no doubt it also helps to keep out intense frosts. When the flowers begin to open, the spikes must be supported with neat sticks. When the flowers fade, cut off the spikes at once, to give the leaves a chance to fully develop themselves. When the leaves begin to turn yellow, dig up the bulbs, and store them in a dry place. The hyacinth has been much used for spring bedding, but the bulbs are often taken up before they are ripe to make room for the summer occupants of the beds, and in that case a fresh supply of bulbs must be imported annually.

Culture in pots.—I have cultivated the Hyacinth successfully as an exhibition plant in pots for more than a quarter of a century, and may therefore claim the right to be a teacher of those who are but commencing their culture. The first point to attend to is the purchase of the bulbs, and if the best results are expected, full-grown bulbs must be purchased in the best varieties. Those intended to flower early should be planted in their pots about the middle of September, or even earlier. Those that will flower in March, a month later. They should be planted in a rich compound of good loam two parts, one part decayed cow manure, one part leaf mould, and one of river sand. This mixture should be laid up in a heap about the beginning of August, in order that the ingredients may be well incorporated before the material is used. I use the ordinary form of pot, five and six inches diameter inside measure. See that the pots are clean, and that clean potsherds are placed over the holes for drainage; some rough turf should be placed over the drainage to prevent the finer particles of soil from mixing with it, and thus choking the outlet of water. It is well known that a Hyacinth will grow and flower well in water only; but when it is planted in garden mould, too much water, or a stoppage of the outlet for the superfluous water, will destroy the roots and seriously cripple the growth of the plant.

In placing the bulb in the soil, the crown should just be seen above it. Place a little clean sand under each, and over the crown another pinch of sand. Plunge them out of doors in cocoa fibre refuse. Some persons place a small pot inverted over the crown of each bulb, but I do not do this; they are merely covered with about four inches of cocoa fibre refuse, and left until roots have freely formed. They are taken, in the first place, into a cool greenhouse, and a small pot is inverted over the crown of each bulb, in order that the tender leaves may not be injured by a too sudden exposure to light and air. In four or five days these covers may be removed, and they may be placed in a warm house for forcing, or left in the greenhouse to come on more slowly. Do not apply too much artificial heat at the first. It does not require uncommon sense to know that a plant ought not to be taken from a very low temperature to a high forcing one too suddenly. In all cases of forcing, a plant must be placed in a temperature that should be gradually increased.

The earliest Hyacinths need not be forced into flower before Christmas; and it is easy to continue a succession for three months or more. Recent seasons have been exceptionally late, and good spikes have been seen well into April. Some seasons they would be all over by the end of March. When the flowers decay, take the plants in their pots and place them in a sheltered position out of doors, where they must not be altogether neglected, but should receive enough water to keep the leaves fresh until they decay naturally. The flower spikes must be cut off as soon as the flowers fade, but they ought to be removed even before this, as they are apt to produce an unpleasant smell when they pass a certain stage; and the sooner they can be removed the better for the bulbs. Some of the bulbs that are carefully ripened will produce very fair spikes the second season. They may be planted out in clumps in the borders, and in some cases much good might be done by giving a portion of them to the cottagers and others who cannot afford to purchase them.

Culture in Water.—Excellent spikes of Hyacinths can be produced in glasses of water. The glasses are of course made specially for this purpose. A few pieces of charcoal should be put into the glasses. Pure water from a well is better than rain water, and the glasses ought to be filled, so that the base of the bulbs just touches the water. The glasses ought to be placed in some dark place; a cellar answers very well if it is not damp, as a damp, close place causes some of the bulbs to decay. They may remain in this place for five weeks, but it is necessary to look over them twice to remove any decayed parts from the bulbs, and to fill up with fresh, clean water, if necessary. In five weeks the roots will probably have grown to the bottom of the glasses, and they must be gradually inured to the light. It may not be necessary to change the water, but it is easy to do so if it gives forth an offensive smell.

Hyacinths grown in glasses are generally used for window decoration, and they ought to be placed in the window when making their growth, as they require both light and air at that time; but, of course, cold draughts are injurious. The bulbs may be put in the glasses about the middle of October, and the spikes must be kept in an upright position with neat wire supports. I may also add here that wire supports are by far the best for plants grown in pots. The wires should be bent at the base, to avoid injuring the bulbs when inserting them in the soil.

Varieties to cultivate.—Single varieties are the best either for glasses or pots, but a few double ones produce good spikes, and may be preferred by some, but only for pots, not glasses. I do not care to grow a great number of varieties. It is better to select those with distinct, decided, and pleasing colours, and grow three, six, or a dozen of each variety. The varieties I cultivate are—

Single Red.—Cavaignac, pale pink; Fabiola, pale rose; Gigantea, clear rosy blush; Macaulay, deep rose; Lord Percy, pale pink; Princess Amelia, very pale pink—a superb variety; Duchess of Edinburgh, pink, handsome truss; Koh-i-noor, salmon pink, semi-double, the best of its colour; Von Schiller, deep salmon pink; Vurbaak, bright crimson; Roi des Belges, deep rosy red.

Single White.—Alba maxima; Baroness Van Tuyll; La Grandesse; Mont Blanc; Grandeur à merveille, blush white.

Single Blue.—Czar Peter, pale lavender blue; De Candolle, lilac blue; King of the Blues, dark blue, one of the best Hyacinths; Lord Derby, clear azure blue; Marie, dark blue; Princess Mary of Cambridge, pale porcelain blue; Queen of the Blues, clear pale blue; Sir Henry Barkley, deep blackish blue; Souvenir de J. H. Veen, purple blue, very beautiful; The Sultan, deep purple blue.

Single Yellow.—Bird of Paradise; Ida.

A few of the best Double Hyacinths are—

Double Red.—Disraeli, Lord Wellington, Noble par mérite, and Princess Louise.

Double White.—La Tour d'Auvergne; La Virginité; Non plus Ultra, white, bluish centre.

Double Blue.—Charles Dickens, fine dark blue; Garrick, lilac-blue; Laurens Koster, indigo blue; Louis Philippe, blue, lilac shade; Van Speyk, pale blue, immense bells.

A few of the best new varieties, not very expensive, are: Challenger, single, claret colour; Distinction, single, deep mauve, dark lines; Electra, single, pale blue; Etna, single, deep rose; Lady Derby, single, white; Lord Mayo, single, purplish violet, distinct white eye; Pink Perfection, clear bright pink; Queen of the Yellows, single, pure yellow.

THE NARCISSUS.

By F. W. Burbidge, F.L.S., M.R.I.A., F.R.H.S., &c.

[Read April 9, 1889.]

The flower of which I need scarcely apologise for speaking to-day is certainly one of the oldest and, nowadays, most popular of all our garden flowers. All the poets have mentioned it with delight, from the time of Homer—or say, a thousand years before Christ—to the days of Tennyson, which happily are our own. It seems possible that the roots of the Narcissus were popular for their reputed or real medicinal uses long before their beauty induced people to cultivate them, and Hippocrates mentions them for their curative powers as early as B.C. 460; but not very long afterwards Theophrastus of Eresus (B.C. 374–285) tells us that the seeds of Narcissus were sometimes gathered and sown, and this is, I believe, the earliest record of the cultivation of these flowers. Chronology, however, tells us nothing of their real life-history, which in all probability began long before human times, or at least long before written history was known.

In the good old days of botanical knowledge, some of us, as gardeners, were taught to believe that a Daisy, for example, had always and ever been a Daisy, and a Daffodil had always been a Daffodil; but more recent thought about the life of things, animal and vegetable, has taught us pretty plainly that both are really branches of what was once a common living trunk, neither wholly plant nor wholly animal.

Then came a time when life became differentiated—plants on the one hand, and the animals on the other; and it has steadily gone on altering and varying until to-day, and is, of course, still in progress, in both the vegetable and animal worlds.

Evolution, after all, is no novelty—it is no new thing. All the old nations of the earth have, or had, some idea of its progress, and often typified it in the form of a tree, with an idea of perpetual youth connected with it, and having its roots in the earth, and its head in the skies. And we are daily finding out that some of these primitive ideas are the true ones, and especially those relating to the Life-tree, or trunk of Nature, which is always reproducing itself, and is always young.

Of course, if evolution is true generally, it is true of all the lesser divisions of natural objects—the so-called natural orders and genera and species—so that when we look at such a complex and highly specialised flower like the Narcissus, and its still earlier type the Daffodil, we know for a certainty that it was not always made as we see it now—nay, we know that its creation has never ceased, but is being changed and modified around us to-day in field and garden alike, and that it had its primary origin as a Narcissus from some flower not a Narcissus according to our modern notions, but from some starry-flowered Amaryllid of far more simple structure as a flower; and this is true not only of our favourite Narcissi, but of all our most beautiful garden flowers, all of which have come down to us by hereditary ascent or descent, and have become gradually more and more beautiful and delightful to us as we ourselves have become more and more appreciative of them.

The late Hon. and Rev. Dean Herbert, whose paper on "Hybridisation amongst Vegetables" (J. H. S. ii. p. 1; part ii. p. 81) is one of the literary jewels enshrined in the old Journal of this Society, was, as is well known, probably the first to hybridise the Narcissi in this country (see "Botanical Register," 1843, vol. xxix. t. 38); and he had a pretty clear notion of the hereditary descent, not only of genera, but of natural orders, from one primæval or early created or specialised type. And this, we must bear in mind, was fifty or sixty years ago, before many of us were born, and when many botanists strongly and openly objected to the practice of hybridisation, and years and years before the publications of Charles Darwin had turned the old, ever-winding, and narrow rivers of thought into one broad and straight and clear-cut channel.

Our so-called "natural system" of botanical classification is almost as artificial as that of Linnæus, and there are signs, many and varied, that a new arrangement, founded on evolutionary or biological principles, is now desirable—a system which, beginning with the simple, or most primitive forms of any one genus, shall gradually trace out their development or evolutionary growth, instead of placing them, as now, by the rule of thumb, or the rule of *a*, *b*, *c*. In my forthcoming "History of the Narcissus," I hope to arrange the species of Narcissus and their neighbours and relations on this natural plan. Since I wrote the above, I find this view well expressed in the *Gardener's Chronicle* of April 13, 1889, p. 467, in the following words:—

> "An analytical table or key, being framed wholly on grounds of convenience, may, of course, be purely artificial or arbitrary in its arrangement. A natural system, the aim of which is to secure an arrangement which shall most closely represent the real or assumed affinities or degrees of filiation and descent, should, could it be perfected, have nothing more arbitrary about it than a genealogical pedigree; each plant should be in its proper place, and its exact relationship to all other plants should be precisely defined. Unfortunately this ideal has not been reached, and many circumstances concur to render it impossible that it ever will be realised. Nevertheless, it is capable of constant improvement, and every new fact is a step to perfection."

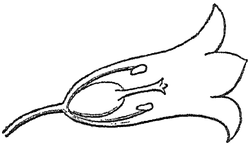
Of course those who know most of Botany will best know how difficult this ideal system will be to work out; and yet, if every one of us works out a special group or genus, I think the task a possible one, and certainly one worth attempting.

So early as 1837 we find Herbert referring to *Narcissus* (Hermione) *deficiens* (Bot. Reg. t. 22, fig. 1) (=N. serotinus, var.) as being in his opinion "the nearest existing plant to the first Narcissus" (Journ. Hort. Soc., vol. ii. p. 27), and he further says, "I should take *Zephyranthes* minima, and Z. gracilis, and the genera Carpolyza, Hessea, and Acis to be nearest to the created type of Amaryllidaceæ" (Journal R. H. S., vol. ii., pp. 27 and 28).

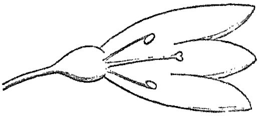
When I suggest that the flowers of the Narcissi we see around us to-day are developments of something else—some other plant less highly specialised—you will naturally ask me one or two awkward questions. Firstly, from what plants the Daffodils and Narcissi have been developed; and secondly, how or by what means I can prove what I say. Well, I shall not try to prove anything I do not assert. I merely make a few general suggestions in order to stir up your own independent thought. Of course, it is much easier to ask questions than it is to answer them; there will always be a doubt, for example, as to whether Adam was a black man or a white one; and after all, do not the highest and best of us believe, *and firmly believe*, a great many things—mere traditions even—of which there is not, nor ever can be, any indubitable proof given to minds that are mortal? Even science, as I apprehend, loses rather than gains by being faithless and unpoetical. Huxley tells us that one may *expect* or *suspect*, an occurrence, even if one cannot *believe on proof*, and so I expect, or suspect, that the Daffodils we see around us now are developments, not from the Sternbergias of Europe to-day, but from the same or a very similar type as that from which Sternbergia as Sternbergia sprang. True Narcissi are of a more modern and so higher origin, being more complex and yet not sufficiently different to prevent hybridism; and if I were asked to say what I suspect to be their nearest early relatives, I should name the little Tapeinanthus lutea and T. humilis (the Carregnoas of Willkommen) as being the simplest or most primitive of Narcissus-like plants known to me. When I first mentioned my suspicions as to the development of Daffodils from a more primitive Sternbergia-like plant, a friend at once asked me, "Well! and from what do you think have arisen the South American, the Andine genera of Eucharis, Ismene, Hymenocallis, etc., etc.?" And of course I referred him to the more primitive stock of American "West-wind flowers"—the Zephyranthes—as very probable early representatives. Of course, here again I do not say that Eucharis or Hymenocallis has actually developed from what we now call Zephyranthes; but it seems reasonable to suppose that a common origin, not very much further back than Zephyranthes, would furnish both and all these genera named. Of course, much of our so-called science is merely a temporary or tentative view, and perhaps natural science can never become absolutely finite (like some branches of mathematics), one tale only being true until a better story is told.

Just for a moment let us see for ourselves the structure of a present-day Daffodil, and we may at least make some rude attempt at tracing back the development of its flower.

The main difference between a true Lily and the Amaryllids is that the ovary is superior and free in Lilies, and inferior and adnate to the perianth in Amaryllids.



LILIACEÆ.



AMARYLLIDACEÆ.

When we examine a Daffodil flower, we find some few hints as to the way in which it has gradually developed from a star-shaped into a tubular blossom. The six perianth divisions are now adnate for half-an-inch to one inch above the ovary, and then fly off as it were at a tangent, when they become free,—becoming free in the earlier and greener-flowered Daffodils much sooner than in the more highly developed and specialised true Narcissi. Then comes the question of the corona or trumpet. Why it is developed we do not know, but its function seems to be the shelter of the pollen-bearing anthers, and it also acts as an advertisement to the occasional insect visitors, which undoubtedly cross-fertilise or hybridise these flowers. Lindley, Gay, Dr. Masters, Mr. W. G. Smith, and others, have tried to unravel the developmental mysteries of the corona. Some thought it composed of an outer whorl of aborted stamens, others suggested the idea of stipules; but to-day we call it "an outgrowth from the tubular portion of the flower," borne or carried upwards by a sort of intercalary axile development at its base, and not to be confounded with the cups of Eucharis, Ismene, Pancratium, or Hymenocallis, which are formed by the cohesion of the thickened bases of both aborted and fertile stamens. This formation of a protective and attractive corona or trumpet by the Narcissi and the genera Cryptostephanus, Placea, and Tapeinanthus is peculiar, since most flowers adopt other, and apparently more simple, methods of protecting their pollen. Cyrtanthus joins its segments into a long drooping tube; a Fuchsia makes an umbrella of its outspread petals; a Tulip stares up into the sunshine, but, like the Crocus, closes on the chilly approach of rain. But a Daffodil seems to have made a tubular corona, which failed in its purpose until it was turned upside down—"all the top at the bottom," as one may say. Held erect, and without the power of closing on the approach of rain, Daffodils would indeed "fill their cups with tears," as Milton says (meaning Crown Imperials or chequered Daffodils, or Fritillarias, probably), and the corona would have been a drawback instead of a gain. Now a Daffodil flower in its green and early-bud stage is as bolt upright as a spear-head, and covered with a green silk-lined scabbard, called the spathe; but when the scape approaches its usual height, the bud bends over to one side—the sunny side—and the spathe is ruptured, partly by the bending and partly by the swelling bud, and when the flower opens it is the "nodding Daffodil" of the poets, and the "flower with the bent head" of Gaelic-speaking folk in Scotland and Brittany. This "swan's neck" condition is assumed by the short pedicels only so long as the expanded flowers remain unfertilised, and the moment that interesting event happens the flower becomes more and more erect, the perianth leaves and corona become dry and shrivelled, as the spathe did a week earlier, and the erect ovary carries on the perfect growth and ripening of its eventually black seeds.

Colour.

However highly specialised in form and structure, the colour of Daffodils is not, as yet, very high up the scale. The mass of them are yellow—and yellow, as we know, is the primitive or working colour of nearly all flowers, just as the working colour of most leaves is green. We feel quite sure that the Daffodil was originally a green flower;* indeed it is so still in its earlier, unopened stages, only becoming yellow after its flower-buds are fully grown. The still higher transition from yellow to white is also marked in some advanced forms, the buds being yellowish, and the newly-opened flowers sulphur-coloured gradually fading away to white. So far we have no red colour in a true Daffodil. The highest colour-note in the true Narcissi is purple on the rim of N. poeticus, and when this plant and the Daffodil breed, either on the Pyrenees or in the garden, we get forms with red or orange coronas, like the wild N. Bernardi forms, or garden varieties like "Queen Sophia" and "C. J. Backhouse." Colour has a well-known tendency to appear first in the most highly specialised parts of a flower, as on the lips of orchids, the noses of hard drinkers (the so-called "grog blossom"), and the cups of the Narcissi. Thus, as a rule, we find the trumpets of Daffodils, and the chalices or cups of the Narcissi, the most highly coloured.

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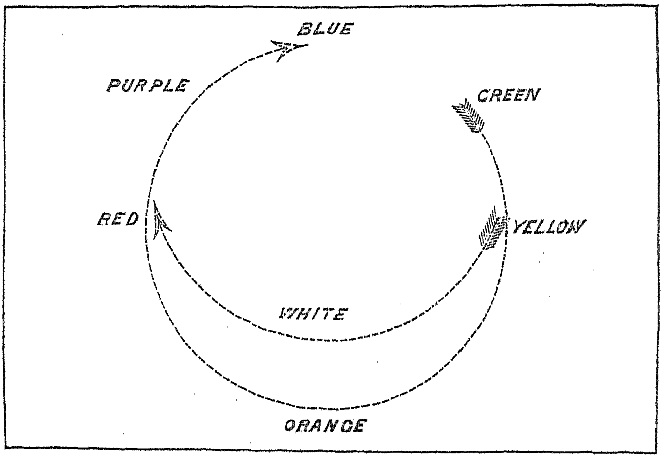
* Pliny, who lived in the time of Christ (A.D. 23–79) followed Theophrastus in his allusion to a Narcissus with "an herbaceous cup," and this kind Turner, in 1548, thought was "our yealowe Daffodyl."

And, if ever we do obtain what our good friend Max Leichtlin, of Baden Baden, says we may hope for, viz. "a scarlet Daffodil," we may be quite sure that the trumpet will become red or scarlet long before the outer divisions of the flower; and that N. poeticus, having already a purple rim to its saucer, may some day mount a step higher and obtain a blue one. Colour variation is mainly a chemical question, and Professor Sorby tells us that it is due to oxidisation as influenced by soils and climate in a very subtle and complex manner. Grant Allen has shown us that these colour-changes, which are primarily chemical ones, do not take place haphazard, but that the colours advance or revert in a regular way, passing through all shades from yellow through red to, or towards, blue, which is the highest note in floral colouring. I do not ask you to believe what I say of this colour question, but I do ask you to copy this diagram, and to observe in your gardens for yourselves, as to whether it is not true.



Why so many flowers should evade passing through the orange stage on their way from yellow to red, is more than I can explain, but it is a fact that many flowers do pass by a short cut from yellow through white (*i.e.*, the absence of yellow pigment) to pink, as here shown. The points in the above colour-scale worth notice, and at present unaccountable, are these: Why does the blue colouring become absorbed from the normal leaf-green, thus leaving us yellow flowers? Again, how and why is it so many flowers turn white and avoid becoming orange-coloured? And thirdly, why should red colouring eventually become absorbed from purple flowers, thus leaving us blue ones?

After form and colour, fragrance is the next important development, and here the yellow Daffodils are not very remarkable, although some of the white ones are really on the way towards the acquiring of a pleasant bees-waxy kind of odour. Some of my friends state that there are white Daffodils "scented like violets," but all I can say is I prefer the violets. When we get to the true Narcissi we find the richest and most exquisite of fragrance, as developed in the flowers of N. poeticus, N. Jonquilla, and N. Tazetta, the last named being indeed too strong for many delicate people. The idea is that white flowers that are scented are mainly cross-fertilised by night-flying moths; and in this connection we may remember the curious little species of Narcissus, such as N. elegans, N. serotinus, and N. viridiflorus, all of which have a fragrance quite disproportionate to their size; and we know that they are now and then cross-fertilised, because Mr. Maw found hybrids between N. serotinus and N. viridiflorus at Tangiers in 1884. The green-flowered Jonquil is a curiosity. Known to Parkinson in 1629, it was re-introduced to English gardens in 1883, by Mr. Maw, from Spain and Morocco, It is no doubt a degenerate Jonquil, and quite as highly specialised in form as is the yellow type, but its fragrance probably attracts its daylight insect visitors quite as well as brilliant colour would do; hence it seems reasonable to suppose that the perianth and corona have reverted to green, the chlorophyll being no doubt an added source of strength to the seed-vessels and ovules.

DISTRIBUTION.

I forgot to say a word or two as to the geographical distribution of the Narcissi.

They are mainly confined to Western Europe, the head centres being Portugal, Spain, and Southern France; one species, viz. N. Tazetta, is ubiquitous, passing in a more or less broken line from the Canary Islands, through North Africa and the Mediterranean region, to Persia, Cashmere, North India, and eventually to China and Japan. Their related allies in Europe and Western Asia are, Leucojum, Galanthus, Sternbergia, and Tapeinanthus or Carregnoa. The general distribution of the whole natural order of Amaryllids is indicated roughly on this map, and I look upon Amaryllidaceæ as a branch, or offshoot, more highly developed, from the order of true Lilies.

We now come to a critical point, viz., What are the good wild or natural species of Narcissi?

SPECIES.

The late Dr. John Lindley, writing in the "Botanical Register," in the year 1824, evidently felt ill at ease, and a little irritated perhaps, at the way in which Haworth and others of that epoch had named the Daffodils. "We cannot avoid stating our opinion," says Lindley, "that the whole genus Narcissus requires to be revised with a judicious yet severe hand.* It may then be discovered that the number of genuine species is very few, and that the individuals, which it has become the fashion to call species, are merely variations capable of being so distinguished. This we have reason to know is also the opinion of Mr. Sabine, who has probably examined a greater number of plants of this genus than any other person. It will also, we think, be decided that in most instances Mr. Haworth's genera are the species, and such of his species as can be distinguished from each other the varieties, of Narcissi."

Looking fairly at all the facts of the case as known in nature, or as occurring in gardens, I think we may safely infer that the really good species of Narcissi are very few, and that many of the others now known are the results of hybridism or cross-breeding.

The type species of Narcissus, concerning which there need be but little, if any, difference of opinion, are as follows:—

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* Mr. Baker did this in a masterly manner in 1869, and in his "Amaryllidaceæ" of 1889.

Flat-leaved . .	1. N. Pseudo-Narcissus
	2. N. poeticus
	3. N. Tazetta
Rush-leaved . .	4. N. Bulbocodium
	5. N. Jonquilla *and* N. juncifolius
	6. N. triandrus

All these are known to exist as plants indubitably wild in Europe, and they all vary more or less widely as collected from different localities.

All come true from seed if fertilised with pollen of another individual of the same species, and they hybridise so freely with each other, that given these six wild species alone in sufficient quantity and variety, and from them the hybridist and cultivator could stock our gardens with every garden variety of Narcissus now known and worth growing. There can, I think, be no doubt whatever that the following kinds are hybrids, viz.:

Flat-leaved Hybrids	1. N. incomparabilis
	2. N. montanus
	3. N. Macleayi
	4. N. Sabini (=Backhousei)
	5. N. (Schizanthes) orientalis
Rush-leaved Hybrids	1. N. odorus
	2. N. intermedius
	3. N. gracilis (& its var. "tenuior")

HYBRID NARCISSI.

Wild or Natural Hybrids.

PARENTS.	HYBRIDS.
N. Pseudo-Narcissus × N. poeticus	(= N. incomparabilis).
" " muticus × N. poeticus	(= N. Bernardi).
" " " × N. Bulbocodium	(= Oporto Hybrid).
" " " × N. triandrus albus	(= N. Johnstonei, &c.).
" " var. muticus × juncifolius	(= N. odorus, var.).
" " " asturicus × N. Bulbocodium citrinus	(= Mr. Barr's Hybrid).
" " " minimus × triandrus concolor	(? = N. cyclamineus).
N. Tazetta, var. × N. poeticus	(= N. Tazetta, poeticus, &c.).
N. juncifolius × N. triandrus	(= N. triandrus concolor).
N. viridiflorus × N. serotinus	(= Maw's Hybrids, G.C. 1886, Nov. 20, p. 661).
N. Bulbocodium, var. nivalis × N. triandrus albus	(= Mr. Tait's hybrid).
N. Bulbocodium citrinus × N. triandrus albus	(= Mr. Barr's hybrid).

Cultivated or Garden Hybrids.

PARENTS.	HYBRIDS.
N. Pseudo-Narcissus × N. poeticus	(= N. incomparabilis, in var.).
" " major × N. poeticus	(= N. incomparabilis, "expansus").
" " spurius × "	(= "Sir Watkin").
" " " × N. Tazetta	(= N. Sabini, Macleayi, tridymus, Backhousei).
" " bicolor × N. poeticus	(= Nelsoni Bernardi).
" " princeps × N. triandrus albus	(= N. "Pauline," 1-fld.).
" " var. × N. calathinus	(= Guiheneuf's hybrid, 2-fld.).
" " vars. × N. Jonquilla	(= N. odorus in var.).
" " × N. poculiformis	(= N. Humei, &c.).
" " albicans × N. poculiformis	(= N. Leedsii, &c.).
N. Tazetta, var. × N. incomparabilis	(= N. (Schizanthes) orientalis).
N. poeticus, vars. × N. Pseudo-Narcissus, vars.	(= N. Barrii).
" " × " " "	(= N. Burbidgei).
N. poculiformis × N. Tazetta	(= N. tridymus, "M. T. Masters").
N. Jonquilla × N. Tazetta	(= N. gracilis, and tenuior).
N. Tazetta × N. Jonquilla	(= N. intermedius, in var.).

HYBRIDS.

The hybrid kinds of Narcissi, as a rule, are very easily recognised by their *structure*. The medial insertion or adherence of their stamens is very marked and characteristic. Practically all the medial Narcissi are of hybrid origin. Any one who once obtains a clear notion of the differences between a true Daffodil and a true Narcissus in this way will have no great difficulty in determining the hybrids of the genus. Here, for example, are descriptions of the flowers of the six great type-species of Narcissi.

1. N. Pseudo-Narcissus	Stamens basal; in one set or series.
2. N. poeticus	Stamens inserted near the mouth of the tube; in two series.
3. N. Tazetta	Ditto, ditto.
4. N. Bulbocodium	Stamens basal; very slightly biseriate; declinate.
5. N. Jonquilla	Stamens near mouth of tube; biseriate.
6. N. triandrus	Stamens biseriate; heteromorphous.

And here for comparison are descriptions of some of the principal hybrids between the above wild species, viz.:—

N. incomparabilis	Stamens in one series; filaments springing free at about two-thirds the length of the narrow tube.
N. montanus	Stamens medial; very slightly biseriate.
N. Macleayi, N. Sabini	Two-seriate; medial (more basal in Sabini).
N. odorus	Slightly biseriate; medial insertion.
N. Johnstonei, N. tridymus	One-seriate; medial.
N. Tazetta orientalis	Biseriate; filaments all elongated.

The filaments in true Daffodils spring free from near the base of the flower-tube.

In all true wild species of Narcissi other than N. Bulbocodium and N. Pseudo-Narcissus, the anthers are all more or less distinctly bi-seriate, and spring from quite near the mouth of the tube. All the hybrids are practically intermediate, having their flower-tubes longer and narrower than in the Daffodil, and broader and shorter than those of true Narcissi; and the *anthers* are usually in one series even although now and then there may be some inequality in the insertion, or springing free of the filaments from the flower-tube.

Taken with other quite evident but less easily described blending of specific characters, this medial arrangement of the anthers is amply sufficient to distinguish any hybrid between any two species in the genus. To the careful student of living and growing Narcissi there is a "look" about hybrids by which he can quite easily guess at, or prophesy, their parentage; but it is an advantage from a botanical point of view to find absolute differences of structure and formation in the true hybrids which make themselves evident and recognisable even when the flowers are dried and pressed for the herbarium.

NAMES.

When we come to the naming of the Narcissi we touch a very complicated and puzzling question. We have at present the anomaly in our garden nomenclature of plants of possibly the same parentage passing under different sectional names. Take the numerous hybrids between the Poet's Narcissus and the Daffodil, for example, including all the variations of N. incomparabilis, Barrii, and some of the Burbidgei's, raised by Herbert, Leeds, Backhouse, and others, in gardens. Most of the Barrii's are simply N. incomparabilis, and most of the true Burbidgei's are merely seminal phases of N. poeticus, the Daffodil parentage being almost, if not quite, obliterated or absent. There are again the wild hybrid N. Bernardi's of the Pyrenees, and finally the single reversion of the double "Orange Phœnix," or "Mary Anderson," which with N. Barrii "Sensation," and some other English seedlings, is practically the same as N. Bernardi. Here we have three or four sectional names for plants that may be produced by the selfsame pod of seed; and I think our Narcissus Committee should, to prevent further confusion, re-arrange all these hybrids under the older and most common botanical names as found in the books. When we take the common hybrids between the Daffodil and N. Tazetta, we are again met by several different sectional names, such as N. Sabini, N. Macleayi, N. Nelsoni (in part), N. Backhousei, and N. tridymus, and for all, or most, of these, I think the oldest name of N. Sabini should be retained, and the other forms named popularly as mere varieties. The Daffodil and Jonquil hybrids are so far all safely sheltered under the so-called specific name of N. odorus, which may be retained to prevent confusion in the books. N. gracilis and its pale form N. tenuior were supposed by Herbert to be seedlings of N. poeticus × N. Jonquilla; and N. intermedius is by some supposed to be N. Jonquilla × N. juncifolius; and N. bifrons, N. Jonquilla × N. Tazetta. N. biflorus, if not of hybrid origin, I should say, is the northern and extreme form of N. Tazetta as it approaches N. poeticus. Its depauperated and generally sterile condition seems to be the only indication of its hybrid origin, and it is quite an unreliable indication. Vegetatively it increases with great rapidity, and is very abundant in Ireland as an escape possibly from old gardens. N. Broussonetii seems to me merely an aberrant form of N. Tazetta and N. canariense, a link between the flat-leaved N. Tazetta and the rush-leaved and more primitive species N. elegans and N. serotinus, these reaching N. Jonquilla by hybridisation, as already shown by Mr. Maw.

I really think we ought to try and get rid, once and for all, of the imaginary distinction sometimes supposed to exist between a species wild, and the same wild species under cultivation in the garden. In both cases the elements are the same, the environment different, and the species which change most in nature will, of course, change still more, and more quickly, in the garden. The garden is a laboratory, in which experiments are continually being carried out, often unconsciously, so far as the cultivator is concerned; but, after all, the constant changes in environment produced by the cultivator cannot do more than develop the changes possible also to plants in a state of nature. A species in its native country may not vary much during the course of centuries, but that is only the case when its surroundings are also unchanged. "Like produces like" in this sense, but the moment its environment is altered in any material way, the plant must either alter its habits to suit the altered circumstances, or, if the change is too extreme, it must die out. "Change or die" is nature's plan of bringing her species and genera into line; and the plants we now see around us represent those which have so changed; but it is only in the fossil or rock-printed condition that we can become acquainted with the orders and genera which have died out in the life-and-death struggle.

The Daffodils that are found wild in Spain or Southern France are often extremely variable. N. Pseudo-Narcissus in Spain is white, cream, sulphur, or bicolor and rich yellow. N. triandrus is extremely variable. In France again, N. pallidus-præcox and N. muticus are protean in their variety, and the intermediates or cross-bred variations, known as N. variiformis, contain some very fine phases, the leaves broad and bicolor-like, and the flowers of great substance and fine form. As contrasted with these wild phases, some of the old forms of Narcissi, long cultivated in our gardens, are remarkably true, *i.e.* not variable in character, and such have presumably been the vegetative offspring (*i.e.* by division) of one bulb, introduced long ago from their native habitats, or they may in some cases have been garden seedlings. Of such are N. Jonquilla, N. obvallaris, N. bicolor, N. princeps, N. maximus, N. minor, and others I need not name. The wild "English" Daffodil (N. Pseudo-Narcissus) as a rule varies but little, but now and then it does vary considerably, white varieties occurring sparingly in Oxfordshire and Dorsetshire, and in Cornwall there are forms of a deeper yellow. Where variation thus occurs it has been surmised that the native plant has been crossed with pollen from garden forms or garden escapes. I do not accept this view, because we find them white on the Pyrenees, without any suggestion of crossing. In Scotland the plant varies slightly, having a more reflexed rim to the trumpet, and so being nearly identical with the Guernsey and Normandy wild kinds. The sectional variations of N. Pseudo-Narcissus are become very puzzling. Formerly we only had N. Pseudo-Narcissus N. P.-N. major, N. P.-N. minor, and the bicolor and white-flowered sections. Now we have N. Telamonius and N. spurius, the French N. pallidus-præcox, the Spanish N. asturicus, N. variiformis, N. muticus, and other groups edged in, and he would be a bold and hopeful man who would venture to separate N. major, N. propinquus, N. Telamonius, N. spurius, N. princeps, &c., variations and phases, from each other. Some of the forms of N. variiformis and N. muticus are really good enough to go into the N. bicolor group, and it is more than possible that our garden "bicolor" was originally selected from one or other of these wild stocks. We always thought we could tell at a glance N. princeps from N. spurius or N. major, but the beautiful Castlewellan Daffodil, now to be known as "Countess of Annesley," is a connecting link between them. Even N. obvallaris—the so-called Tenby Daffodil—is resolving itself into a section, the "Saragossa" Daffodil, "Vicar of Lulworth," "Ione," and one or two others, and seedlings, at present less well known, agreeing with it in most particulars.

SEEDLINGS.

I should like to say a few words on seedling Narcissi. Theophrastus of Eresus (B.C. 374–286) says of the Narkissos that "its leaves spread on the ground like the Asphodel, but are broader like those of Lilies; its stalk is leafless, and bears at the top an herbaceous flower, and dark-coloured fruit enclosed in a vessel of an oblong figure; this fruit falling down sprouts spontaneously, *though some gather it for sowing*."

Nearly all the authors on gardening recommend the sowing of Daffodil seeds. John Evelyn, in his "Kalendarium Hortense" (p. 68), published about 1666, tells his readers to gather the ripe seeds of Narcissus, and he especially mentions that the two lesser pale spurius Daffodils of a whitish-green colour "often produce varieties." Nowadays if any one rears seedling Narcissi we are sure to hear about them, but in the days before these flowers became popular many seedlings, no doubt, appeared in old gardens in both England and Ireland. The Irish climate is pre-eminently suitable to the growth of these flowers, and the white Daffodils introduced long ago, no doubt from the Pyrenees, and the forms of N. spurius and N. princeps, have long been naturalised there, and have seeded and still seed themselves spontaneously. As a rule we find some varieties produce seeds far more readily than others. Of the kinds long cultivated, N. minimus, N. minor, N. nanus, N. obvallaris, and N. Telamonius, single and semi-double, often produce seeds. Nearly all the wild varieties seed freely after being imported to our gardens, but the only sure way of securing a crop of good seeds is by cross-fertilisation, growing the seed-bearing plants in pots in a cold frame or greenhouse.

Bulb Growth.

The bulbs of both Daffodils and Narcissi are very variable in size, those of N. minimus, N. juncifolius, N. cyclamineus, and N. triandrus having strength enough to flower when the size of marrowfat peas, and the three last-named kinds may possibly flower the third year from seed. "Emperor," "Empress," "John Horsfield," and "Sir Watkin," have enormous bulbs as grown on suitable soils, varying from three to four and a half inches in diameter. "Sir Watkin" and "John Horsfield," are two of the strongest growing varieties I know, and succeed on nearly all soils. In colour the outer coats of the bulb vary from silver grey, through sandy-brown shades to a deep and glossy umber brown, and the outer bulb coats of the N. Tazetta generally known as "Paper White" are amber shaded with black—the darkest known bulb thus producing the whitest flower.

The foliage of the flat-leaved kinds of Narcissi are distichous or two-ranked, a fact which influences the disposition of the axillary buds from which the flowering centres, or the succeeding offset bulbs, are formed. Thus, what is called a "breeder bulb" as a rule presents a distichous appearance, and the plan of bulb production is not haphazard, but proceeds in a dichotomous sort of way.

It is a fact worth noting, that the leaves of all the flat-leaved Narcissi are twisted from left to right, while the perianth divisions are as a rule twisted the reverse way.

The life-cycle of a Narcissus is completed in from two to five years. Thus flowers cross-fertilised during March or April, perfect their seeds in June or July. They should be sown as soon as they are ripe, in boxes or raised prepared beds of light sandy earth, on a well-drained bottom. Germination takes place the following November or December, and it is remarkable that all the kinds commence life with narrow or rush-like, grass-green leaves. About a year after sowing your seeds, the first leaves die away, and you have bulbs about the size of wheat grains. The second year they are about the size of marrow peas, and an odd bulb of such sorts as N. triandrus or N. cyclamineus may possibly flower. The third year the two last-named species and N. juncifolius are the size of very small hazel nuts, and generally bloom. The fourth year nearly all the kinds may flower, but, as a rule, the large-growing Narcissi, such as N. poeticus, N. Tazetta, and the Daffodils, do not bloom until the fifth year, and are not at their best until a year or two afterwards. Mr. Wolley Dod raised a batch of three or four hundred seedlings from "John Horsfield," which he himself characterised (in the "Garden," vol. xxxv., p. 277) as "mostly a disappointing and shabby lot of mongrels." This fact, together with my own experience, points to the employment of wild collected bulbs for seed-bearing purposes as much as possible, and poor, sandy, or gravelly earth suits them better than richly manured soils. Pollen may be obtained from cultivated bulbs, and that of N. montanus, N. poetarum, N. Tazetta, "States General," and some others, is generally potent as used on the seed-bearing wild bulbs. It has been observed by Mr. Barr and other collectors of Narcissi abroad, that they seldom produce "breeder bulbs" in a wild state, all their energy being developed towards reproduction by means of seeds. In our gardens generally, as we know, "breeder bulbs" are the rule, and seeding is rather an exception.

CULTURE.

The culture of the above six species of Narcissi and of their hybrids is very simple, and all are hardy on light, well-drained, and not over-rich soils. N. triandrus and N. Bulbocodium are of all those named the most delicate, but they do well year after year on sunny borders near to warm walls. All the most delicate of Narcissi, *i.e.*, those accustomed to a hotter summer climate than our own, do best on lean gravelly soils, and my own experience goes to prove that crude manures either natural or artificial, are eventually hurtful to all bulbous flowers whatever, and I have lately heard of many failures in places where manured ground had been employed for Narcissi, Snowdrops, and Crocus. If any stimulant be used, let it be burnt earth and wood ashes mixed with twice its bulk of road scrapings and fresh meadow or hill-side earth, and applied as a top dressing, or at planting time. It is a remarkable fact that the garden seedling and hybrid kinds withstand the effects of manurial stimulants better than do the collected wild species and varieties, which succeed best in lean stony soils or grassy banks. We often kill off rare and delicate bulbs, and also alpine plants, by too much kindness, when they would live longer and succeed in all ways much better in lean and hungry soils. The species of Crocus and Snowdrops are extremely liable to disappear if planted in what we call well enriched soils, and the same is true of the wild species of Narcissi, which often produce fat, carroty roots, and ultimately die out under culture on rich soils, although they live and thrive on poor soils. There is a deceptive subtlety about the use of manure, for the first season it is used, the bulbs are larger and the flowers often finer, but its after effects are often most disastrous. In cold or wet localities, raised beds or borders and grassy banks in full sunshine are suitable for these flowers, and there are many instances of the Daffodils and N. poeticus, etc., existing for many years, as naturalised in meadows, parks, and old gardens, on suitable soils, without any cultural attention whatever. When these flowers do well in private gardens there is often no necessity to transplant them for four or five years at least; but if the bulbs do not thrive and flower well, the sooner they are removed to fresh soil the better. The best time for transplanting is June or July, as soon as the leaves wither, and better too early (*i.e.*, before any new roots appear) than too late.

On some cold, wet soils Narcissi have a tendency to retain their leaves, that is to say, the bulbs do not finish or ripen up their growth properly, and in this case the bulbs may be dug up in July, and allowed to dry on the surface of the ground, or on the floor of a cool shed, for a few weeks, before they are cleaned and replanted, but bulbs so grown are never so successful as when grown on fresh gritty soils that are naturally suitable to them, and in which they ripen naturally.

DOUBLE VARIETIES.

The last time I read a paper on Narcissi before this Society, one or two present were disappointed because I never alluded to the so-called "double-flowered" kinds. This makes me anxious not to offend again. The "double" Narcissi are more or less sterile, or abortive reversions from the following nine kinds, viz.:—

N. Pseudo-Narcissus.
× ,, cyclamineus } Found in Portugal by
,, Bulbocodium } A. W. Tait, Esq.
,, poeticus.
,, Tazetta.
× ,, incomparabilis.
,, Jonquilla.
× ,, odorus.

Taking them in the above order, we have in the first instance several forms or phases of the common Daffodil, in which the staminal whorls (*i.e.*, the anthers) are more or less transformed into petaloid divisions. This occurs now and then with the common wild English Daffodil, "double" flowers having been found sparingly amongst single ones in the Isle of Wight (St. Urian's copse), and in Devonshire, Pembrokeshire, and elsewhere. This is mentioned by Parkinson in 1629 as "Mr. Gerard his double Daffodil," and as having been found in a woman's garden in the West of England, where a cunning man had previously resided. Some years ago Messrs. Barnaart and Sons introduced a double Daffodil called "Silver and Gold," which resembles the double English but is larger, its perianth lobes being nearly white, and its coronal ones chrome yellow. It is earlier in flower than most other doubles. Then we have Tradescant's great Rose Daffodil, also mentioned by Parkinson, and another "double" one which he distinctly tells us he raised himself from seeds of the great Spanish Daffodil in the year 1618. Then there is "Mr. Wilmer's great Double Daffodil," which Parkinson says "doth so near resemble our ordinary English double kinde," that he can see no difference except "the largenesse of both leaves and flowers, and statelinesse of growth." The last named is our large double garden Daffodil, or "Telamonius plenus" of bulb lists to-day. It was flowered in 1620 by "Vincent [van] Sion, born in Flanders, dwelling on the Bankside [? Strand], in his lifestime, but now [1629] dead,—a worthy lover of faire flowers, who cherished it in his garden for many years." (Parkinson's "Paradisus," p. 104.)

Van Sion supposed that he had received it from Mr. John de Tranqueville (for from beyond sea he never received any). It is the same as "Mr. Wilmer's Double Daffodil," for Parkinson is careful to tell us that "Mr. George Wilmer, of Stratford Bowe, Esq.," having, like Parkinson himself, received it from Van Sion, "would needs appropriate it to himself, as if he were the first founder thereof, and call it by his own name . . . which since hath so continued." The double white Daffodil, N. cernuus plenus, is very lovely in all its phases, but it is apt to die out in rich manured soils, like other delicate rooted kinds. A small double yellow (often greenish on rich soils) Daffodil was introduced from an Irish garden a few years ago, and is now known as "Rip Van Winkle." It is a double form of N. minor of gardens, having narrow perianth lobes with crochet-hook-like points. Planted on grassy banks on light stony soil, its flowers are of a clear golden hue, and very distinct from all other varieties. Mr. Barr found a pale double form of N. P.-N. var. asturicus in 1888, in a perfectly wild state. The one double Daffodil which is most distinct and puzzling of all others, is that first figured in the great elephant folio of Basil Besler called "Hortus Eystettensis," a sumptuous work published in 1613 at Eichstadt in Bavaria. This is the variety we know as N. Eystettensis in our gardens to-day. It differs from all other double Daffodils known to me as being wholly composed of perianth segments, superposed in six rows, there being no coronal segments apparent as in all other "double" kinds. In some gardens in Ireland this plant is plentiful, and most of us owe our stock of roots to Miss White, of Charlville, Roscrea, county Tipperary, where it has flourished for many years. It has also been found naturalised in one or two places in Dorsetshire, England, but the most singular point in its history is that its normal or single state is quite unknown. Haworth thought it was a "double" form of N. capax, that is to say, of the large-flowered and most northern form of N. triandrus (called calathinus), and found in some little islands (Ile de Glenans) off the coast of Brittany. This we now know is not the case. Herbert thought it a double phase of N. minor, but in leafage and time of flowering it differs from any Daffodil known to me. Parkinson tells us it "is not certainly known where his original should be: some think it to be of France, others of Germany." Curtis, when figuring N. tenuior in the "Botanical Magazine," t. 379, thought this plant was a form of that variety, which he says he saw "in a single, but mostly in a double state" in Maddock's then celebrated nursery at Walworth, in May, 1794. This doubled-flowered variety is alluded to by nearly all the old writers, beginning with Lobel in 1581, and Gerard appears to have received it from Jean Robin, of Paris, who obtained it from near Orleans, but whether from a garden or wild is not so clear. Its name of "Queen Anne's Daffodil" was no doubt originally given in honour of Queen Anne of Austria, and not in compliment to our own queen of the same name.

The three or four double forms of N. incomparabilis are well known under the popular names of "Butter and Eggs," "Orange Phœnix," "Sulphur Phœnix," and "Eggs and Bacon."

The double Poet's Narcissus is a late flowering plant, and is thought to be the double phase of N. patellaris, and it is commonly known as the "Gardenia-flowered Narcissus." N. Jonquilla is a slender-stalked, golden-yellow double, often forced in gardens for decorative purposes, and, like its single type, is very fragrant. N. odorus fl. pl. is believed to be a double phase of N. odorus rugulosus, and is often known as "Queen Anne's Jonquil" or "Double Tags."

As I have said, all these "double" flowers are reversions, and they are often perfect abortions so far as the reproductive organs of the flowers are concerned. This is not always the case, however, for now and then the style, and an anther or two, are perfectly normal, and then seeds may be produced from which a double variety has been propagated.

So far as I know, N. Telamonius plenus and the pale double English are the only varieties that have so far been reproduced in this way.

The origin of these double flowers is by no means clear, but on examination we find that there is a reduplication of parts, in part due to the metamorphoses of some or all of the fertile stamens into petals, and by the partial splitting up, or unbuilding as it were, of the flower itself.

THE BEST OF ALL THE NARCISSI.

Seeing that there are now in cultivation from six to seven hundred varieties of Narcissi, it has occurred to me that a list of about a hundred of the best variations would prove serviceable to those inexperienced amateurs who would like a selection of these flowers.

Yellow Daffodils.

Ard Righ (Yellow King), Henry Irving, Maximus, Golden Spur, General Gordon (spurius coronatus), Obvallaris (Tenby), Countess of Annesley, Emperor, Glory of Leyden, Saragossa, Rugilobus, John Nelson, Captain Nelson, Princeps, Cornish Yellow, Telamonius plenus, Eystettensis plenus, Minor, Nanus, Minimus, Cyclamineus, Bulbocodium, Conspicuus, Citrinus, Monophyllus.

Bicolor Daffodils.

Bicolor (of Haworth), Variiformis, Bicolor grandis, Horsfieldii, Empress, Dean Herbert, Michael Foster, James Walker.

White and Sulphur Daffodils.

N. pallidus-præcox, J. G. Baker, Cernuus, Bishop Mann, Leda, Colleen Bawn, Albicans, Mrs. F. W. Burbidge, Wm. Goldring, J. B. M. Camm, Moschatus (of the Pyrenees), Minnie Warren, "Little Nell," C. W. Cowan, Mrs. J. B. M. Camm, Rebecca Syme, "St. Brigid," N. cernuus plenus, Madame de Graaff.*

Nonsuch or Peerless Hybrid Narcissi.

N. Sir Watkin, N. Princess Mary, N. Gloria Mundi, N. Queen Sophia, Duchess of Westminster, Leedsii elegans, N. "Dorothy E. Wemyss," N. "C. J. Backhouse," "Beauty," "Cynosure," Mary Anderson, "Beatrice," Katherine Spurrell, "Minnie Hume," King of the Netherlands, Maria Magdaline de Graaff, N. Barrii "Sensation," Conspicuus, Burbidgei, "Constance," "Little Dirk," "Princess Louise," Lulworth, "Hume's Giant," Backhousei, "William Wilks," Bernardi, "H. E. Buxton," Tridymus, "Duke of Albany," "S. A. de Graaff," Nelsoni, Nelsoni aurantius, Nelsoni pulchellus, Sabini, Macleayi; *doubles* "Butter-and-Eggs," "Orange Phœnix," "Sulphur Phœnix," N. odorus, rugilosus plenus, hæminalis.

Poet's and True Narcissi.

N. poeticus, N. ornatus, N. poetarum, N. grandiflorus, N. recurvus, N. patellaris, N. majalis, N. "Marvel," N. stellaris (the latest flowering with N. patellaris plenus), N. triandrus albus, pulchellus, calathinus, etc.; N. Jonquilla, ditto, plenus, N. juncifolius, N. rupicola, N. gracilis, and N. tenuior.

Polyanthus or Bunch Narcissi.

N. Tazetta, Bazelman major, Musart's orientalis, floribundus, gloriosus, Soleil d'or, States General, Scilly White, Jaune Supreme, "La Citronnière."

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* The only seedling that competes with the "Imperial" Daffodils, "Emperor" and "Empress," of Backhouse; it was raised along with "Glory of Leyden," "Emperor William," and many others, by M. de Graaff, Bros., of Leyden.

SEEDLING DAFFODILS.

By the Rev. G. H. Engleheart, M.A., Appleshaw, Andover.

[Read April 9, 1889.]

The Secretary having asked me rather recently to follow Mr. Burbidge with a short paper of some kind on the Narcissus, it occurred to me that I would put together a few notes on the subject of seedlings and seedling raising. But after having done a little towards this, I found among my accumulation of Daffodil literature, two back numbers of the *Gardener's Magazine*, which, as must sometimes happen to a busy man, had not been read by me as they deserved, but which really almost exhaust the subject, historically considered.

To those, therefore, who are interested to know the history, so far as it is ascertainable, of our hybrid and seedling Narcissi, let me recommend the very excellent papers by Mr. Burbidge which may be found in the *Gardener's Magazine* of December 12th and 26th, 1885.

There is, however, perhaps room for me to contribute a few practical remarks about the present aspect of seedling raising in the Narcissi, especially as it has been a great source of pleasure to me to study this fascinating family in my leisure for some years. And at the outset I would say that I am not of those who regard the extreme interest taken in Daffodils, and the immense demand for their flowers, as a fashion and a craze which will suddenly ebb away. Covent Garden in April, and the fact that shrewd men of business have sunk, and are still sinking, large capital in these bulbs, are a guarantee that the Daffodil fashion will remain an abiding habit of springtime, rather than a passing fashion. The truth is that this early, hardy, and sufficiently diversified flower has supplied an acknowledged want, and that it is extremely difficult to imagine any other that can fill our markets to the same extent at the same season. When roses are not valued in June, July, and August, Daffodils will not be valued in February, March, and April—but not until then.

This is no digression from my subject of seedlings, for the unshaken, and, I think, unshakable, popularity of the Daffodil assures us, first, that the work of raising seedlings will continue; and, secondly, that it will now principally take the course of efforts to improve the Daffodil from the florist's and the market-gardener's point of view. From the point of view of the scientific botanist there does not, perhaps, remain a great deal to accomplish in seedling raising, in comparison with what has been done. For we may, roughly speaking, say that we know the parentage of most of the hybrid Narcissi. That will be acknowledged by those who consult Mr. Burbidge's papers which I have mentioned. Herbert, Leeds, Backhouse, Leichtlin, and others have left notes—not so ample or accurate as we could wish, but ample enough to justify us in saying we know that N. incomparabilis is between N. Pseudo-N. and N. poeticus; N. odorus between N. Pseudo-N. and N. Jonquilla; N. tridymus between N. Pseudo-N. and N. Tazetta, and so forth. It will, no doubt, be satisfactory when all this is verified step by step, by workers who will bring us every one of these old hybrids as actually raised by themselves, and will show us parents and offspring. There are also new hybrids to be produced between N. triandrus and N. cyclamineus, and the various Narcissi with which they seem willing to cross. The former has already been used, but to no great extent as yet. Many more minds and hands, however, will be engaged in improving our Narcissi as florists' and market-gardeners' flowers, for a florist's and a market-gardener's flower the Narcissus now is, and a very important one, æsthetically and commercially. It is on this point in particular that I have a few suggestions to make—as to the lines along which such improvement should be pushed.

When visiting the grounds of my good friend Mr. Walker and others, it has often been my thought—how few first-class market varieties there are, and how many gaps there are crying to be filled up. Thus, at the beginning of the Narcissus season I see Tenby all alone, so far as trumpet Daffodils are concerned, for some while; and I am sure that Mr. Walker would like half an acre of a flower as early, as bright, and as stiff as Tenby, but twice as big and productive of more bloom to the bulb, for Tenby is not very free in this respect. Well, I think that this is an attainable thing, either by sowing considerable breadths of seed of Tenby (it bears seed abundantly) and selecting from the seedlings, or by crossing it with such Daffodils as Golden Spur or Maximus. How lovely the soft pale colouring of pallidus præcox is; but we must have a much better-behaved pallidus-præcox—I mean a Daffodil which is both pale and precocious, but which does not die suddenly, as this pale precocious child does. Selection might give us this, for it seems there are several varieties, from different districts and different levels, of these pale early trumpets, and one may prove hardier than another, or seedlings might acquire greater hardiness. Sir Herbert Maxwell assured me that he could never get Corbularia conspicua to establish itself comfortably in his Scotch garden until he raised it from seed. Or a cross between a strong and good early yellow Daffodil, and as robust a white one as can be found, might provide us with a most substantial straw-coloured early variety. Then, who will supply us with a large, bold, white trumpet Daffodil, substantial in flower, and robust in constitution—an out-of-doors Eucharis? We have no white kind that the market gardener finds it worth his while to grow, unless, indeed, it is Messrs. de Graaf's noble Madame de Graaf, of which, however, we know little as yet as to its behaviour under field cultivation in England, and if it is satisfactory in all points, yet it stands alone, and there is room for other seedlings like it. It is worth while to raise white seedlings—some of the whites yield large and good seed—and I have flowered the young plants in their fifth and even in their fourth year. Also it will be well to raise plants in quantity between the larger yellows and the stronger whites. The white hybrid forms, such as Leedsi and Leedsi amabilis, though of good constitution, are far too soft in the flower for market purposes; the crown melts in sun and wind, and the market gardener will gladly accept something more durable if we will invent it for him by selecting as robust seed parents as is possible.

Here I may point out that the modern hybridist has enormously better materials to work with than Mr. Leeds, for instance, had. Not to speak of the fine new Ajax forms which have appeared of late years, he seems to have possessed none but inferior, narrow-petalled varieties of the Poeticus—one of the hybridist's most necessary elements. Our beautiful, broad-petalled, vigorous N. p. ornatus ought to give us incomparabilis flowers of enhanced shape and substance. Again, there is a vacant place for a big and sturdy mid-season or late flower, such as Emperor, but with the rich golden colour of Maximus, which is not always happy in England. Perhaps Messrs. de Graaf and the late Mr. Kendal have already crossed Emperor with Maximus to add the rich deep colour of the latter to the splendid habit of the former, but other gardeners may well attempt this or similar devices. Maximus seeds with me occasionally; Emperor always with great freedom, although with Mr. Backhouse it seems to have seeded badly. One of the loveliest possibilities in Narcissus hybrids is the flower with pure white perianth and orange-scarlet crown. Nelsoni Aurantius is, perhaps, the only good flower already obtained, or at least in commerce, in this department, for "Mary Anderson" declines to stay on the stage, and the collected Bernardi (some of which are very brilliant) want size. I can scarcely myself believe that Mr. Leichtlin's Scarlet Daffodil is a possibility, so far as a red perianth is concerned, but there is no reason at all why a flower should not be born as big as Sir Watkin, but with a white perianth, and an almost scarlet cup. I have myself many seedlings in a juvenile state supposed to be between various fine trumpets, and the red-cupped p. poetarum, and hope they may not disappoint my expectations. In this cross the Ajax must be stout, to compensate for the flimsy perianth of p. poetarum.

Speaking of the Poeticus group reminds me that there is too great a gap of time between the last flower of ornatus and the first of recurvus. P. poetarum, to some extent, comes between the two; but it is not serviceable as a market flower on account of its thin perianth, which droops like limp muslin on a scorching day. Seedlings between ornatus and recurvus, a perfectly possible cross, ought to be valuable to bridge over this gulf. And how invaluable a double ornatus would be, or a double poeticus, which would bloom distinctly before the ordinary late double poeticus. Large growers of ornatus should be on the watch for a semi-double ornatus, and carefully save its seed. Or perhaps a cross could be effected between ornatus and the late double, which occasionally seeds, if the one could be retarded and the other forced.

Enough attention has not been paid to the raising of *double* seedlings. Double Daffodils seed more often than is supposed. A *very* double Daffodil often has the stigma perfect and visible among the tightly packed petals if the flower is well examined.

It is because there is seldom a large pod that the seed is unnoticed. A few seeds may not uncommonly be found in what looks merely like the rather swollen end of the pedicel. I have seedlings of the common "double Telamonius" now in flower, and several other gardeners can say the same. Hybrid or crossed doubles are not impossibilities. In 1885 I noticed the stigma protruding from the tightly-double trunk of a few flowers of double cernuus. I marked them, and obtained nineteen seeds, eleven of which grew. Out of curiosity I dusted the stigma of one or two with pollen from a yellow Ajax—I believe it was spurius—which was growing near at hand. This spring one of the eleven seedlings is flowering, and the cross was evidently effectual, for the flower—so far as I could judge of it in its half-opened state before I left home—is drooping, like cernuus, but so yellow as to be almost precisely like the common double yellow. The ten unflowered seedlings seem to vary in leaf and habit, and I may have more oddities to report next year. It may be of service to hybridisers to know that the pollen of double Narcissi commonly gives doubleness to single flowers fertilised with it. In my garden I have some clumps of the common double yellow on a walled south border, which therefore bloom early. In a batch of seedlings from "Tenby," sown in 1884, I have one quite double flower, differing in no visible feature from the common double yellow or Telamonius plenus. I understand that my friend Mr. Wolley Dod has had precisely the same experience, and I do not doubt that in both gardens insects conveyed pollen from the double flower to the single. These seedlings have been grown in ranks and watched every year, and no mistake has been made. Our common wild Pseudo-N., when fertilised by pollen of the common double yellow, yields single yellow seedlings, and also doubles of a small intermediate character. Much then, I think, might be done to give us greater variety in double Narcissi. I notice that Mr. G. Cornhill writes to the *Garden* of April 6, affirming that he has two varieties of "hybrid seedling Daffodils."

It is well, however, to remind the enthusiastic gardener that he is not likely to make a fortune out of the business of raising seedling Narcissi. Not only must it take a large fraction of a lifetime to work up a small marketable stock of a fine variety, but he may labour some years without finding such a plant among his seedlings. He will have many blanks and few prizes. Probably not one seedling out of a hundred, or out of many hundreds, will bear comparison with the finer flowers now in our gardens. It is probable that seed of Horsfieldi—a magnificent flower, which seeds freely—has been sown by many with sanguine hopes of flowers as big as dinner plates. Out of many seedlings from Horsfieldi now flowering with me, not one has the smallest pretensions to equal its parent, or even to resemble it, and Mr. Wolley Dod tells me the same thing is true of a great bed of the same seedlings in his garden. The extraordinary variety, however, of form and colour among such seedlings leads me to suppose that the Horsfieldi flowers were for the most part impregnated with pollen from other Ajax varieties. It is alleged that the Narcissus is usually "proterandrous," *i.e.*, ripens and sheds its pollen before the stigma is receptive, and therefore we should perhaps do as Darwin did in his experiments—cover with a gauze net those flowers which we desire to produce "true" offspring—excluding insects, and applying pollen from flowers of their own race, if obtainable. But Mr. Backhouse observed long ago that seedlings of Empress and Emperor have a tendency to revert to an inferior type. (With regard to Emperor, I find the seedlings fairly constant, as may be seen from two flowers here at hand.) With me, the progeny of Vicar of Lulworth, a remarkably shapely and handsome little flower, had reverted to pure common wild Pseudo-N., and the same reversion has taken place in seedlings of the so-called "Bicester Whites," which are almost certainly crosses between some white Daffodil and the indigenous "Lent-lily." On the other hand, I have myself, to some extent, imitated both the Lulworth and the Bicester flowers by crossing the Lent-lily with garden Daffodils. The Lent-lily, dusted with pollen of a trumpet-Daffodil "Achilles," has given me the flowers, here shown, with prettily expanded crowns. Some ten years ago there came from Holland certain large yellow trumpet Daffodils, now known as "Henry Irving," "Golden Spur," "General Gordon," and others. They were supposed to be Dutch seedlings, from what is known as Narcissus spurius. Here are seedlings, from my garden, raised from N. spurius, and it will be seen that they are on the way to represent these or similar forms, and that their variation is considerable and noteworthy.

Seedlings of "Tenby" are more constant, though they, too, vary. Some of my young seedlings of Horsfieldi give flowers in form like N. princeps, and among seedlings of cernuus pulcher I have reversions to pure cernuus.

One of the lessons of these reversions and variations is, that we must certainly sow large breadths of seed for the chance of obtaining a few really superior flowers. And I will conclude with advice that we shall do well not to neglect the latest "scientific methods" in our seedling-raising. In Darwin's beautiful book upon the effects of cross- and self-fertilisation in plants, he gives, as one of his important summaries, the inference that the most robust offspring results from the marriage of plants which are *different varieties* of the *same* species, and which have been grown under *varying conditions* of soil, climate, &c. If, then, to take an instance already given, we desire to cross Emperor and Maximus, we shall do well to obtain our pollen from another garden or another part of the country, if possible, or to let one of the parents be a plant imported from another locality the previous summer. If we were to cross the robuster Narcissi of our gardens with the finer varieties freshly collected from the Pyrenees and other distant stations, we should perfectly fulfil Darwin's demand of varying conditions of life in the two parents.

Darwin has collected evidence to indicate that true hybrids, *i.e.*, crosses between different species of a genus, are commonly weak in constitution or in fertility, or in both. Extremely bad results are fortunately uncommon in hybrid Narcissi, although we can see that in them Darwin's rule holds good to some extent. Thus, to mention some of our modern hybrids, N. Leedsi Beatrice—with me, at least—is both entirely sterile and of little vigour. The varieties Stella, Cynosure, and most of the Incomparabilis class, are vigorous and of rapid root-increase, but sterile or very unprolific in seed-bearing. But the Pyrenean Bernardi (so far as my experience goes), and such garden hybrids as Princess Mary, are both robust and free seed-bearers.

Herbert pointed out, nearly half a century ago, how much pleasure the amateur might find in the occupation of raising new Narcissi from seed, and this still holds true. For the more scientifically minded there is still the parentage of some of the ancient hybrids to be more certainly verified, and still new hybrids to be raised —*e.g.*, let him bring us hybrids of poeticus with triandrus or cyclamineus. For the unscientific lover of flowers there remain some ideally beautiful things to be produced: he may bring us the giant white and scarlet incomparabilis. And if some faint-hearted gardener objects that this is the work of years, and that he will labour, but the market-gardener will enter into his labours,—well, is not this true of human work at large? Men must be like the bees, which still make honey and are probably happy over it, though it was remarked two thousand years ago that they do not make it for themselves.

DISCUSSION.

The CHAIRMAN (the Rev. W. Wilks) said: Before proceeding to put to the vote this proposal of a vote of thanks to Mr. Burbidge and Mr. Engleheart, for the most valuable papers which they have read to us to-day—papers which are the result of years of patient observation and study—I may perhaps be excused if I venture to make a few practical remarks on a branch of the subject which did not fall within the province of either of these papers.

People come to these Spring meetings of ours and see such glorious displays of Daffodils, that knowing them to be thoroughly hardy, they are often inspired with a longing to grow them in their own gardens. That is excellent; it is one of the purposes for which our meetings are held; but let us imagine some one who knows little or nothing of Daffodils to be thus inspired. He goes round the groups and begins jotting down the names of the flowers that most take his fancy, and I venture to say that in less than five minutes he is either floundering hopelessly amid a multitude of names of flowers that to a beginner seem so much alike, and that even experts are not seldom at a difficulty to distinguish; or else he has covered two or three pages of a notebook with names of flowers which to his eye seem all, and almost equally, desirable. Thus, confused and confounded by the multitude of the names and the similarity of the flowers, many people give the thing up for hopeless, and take refuge in a catalogue, where, although they find a still more bewildering profusion of names, they fancy that in the descriptions so vividly drawn, and in the prices, they will have some reliable guide.

Now I venture to think that no more fallacious guides were ever invented for a beginner than descriptions and prices. Descriptions are notoriously bewildering, save to those who are well accustomed to the style of the describer and the general idea of the described. And prices are most misleading. Some people would pick out all the most expensive bulbs under the impression "they *must* be the best." Others again would pick out the least costly, saying, "they will do to begin on." Both ideas are most fallacious. I am certain that some of the more costly bulbs are the cheapest for a beginner, and some of the least costly are among the best. I will venture to name a baker's dozen for any beginner to start on, which I think will none of them cause disappointment. I will not name them in any order of merit, as people's ideas on that point are so different. I name them as they come to my mind, and I will give my reason for naming each.

Double Telamonius.—The common double yellow Daffodil. It will grow anywhere, and increase very rapidly. It is glorious in colour, stout in habit, and lasts a long time in bloom. It is the most generally useful Daffodil we have.

Emperor.—A grand flower; tall, strong, robust, very prolific, large broad foliage, large clear pale yellow flower.

Horsfieldi.—Another grand flower; deep yellow trumpet, almost white perianth; very prolific.

Empress.—Except to experts, an exact copy of Horsfieldi; but it blooms a fortnight later, and is therefore fully as desirable as Horsfieldi, and its perianth possesses a little more substance, and its flower stalk is stiffer.

Leedsi C. J. Backhouse.—A very fine flower, with a small brilliant orange-red trumpet or cup, and a broad golden yellow perianth. It is most distinct, and in my garden is very strong and prolific.

Sir Watkin.—A splendid and quite distinct yellow flower of good constitution, and strong robust habit; very prolific.

Barri conspicuus.—One of the most charming flowers that I know. Very pale sulphur perianth, with cup fringed with orange. It is not of so stout a habit as those I have previously named, but it is of thoroughly good constitution, and increases rapidly.

Poeticus ornatus.—The early blooming Pheasant's Eye. The perianth is snow-white, and the cup edged with orange scarlet. Increases fairly well, and has a fair constitution, but is not so strong as the next, but most desirable for its earliness.

Poeticus recurvus.—Almost an exact copy of ornatus, but quite a fortnight later, and of more robust habit, and more prolific.

Double poeticus.—Sometimes called the Gardenia Narcissus; but a good average blossom is far more lovely than any Gardenia. Pure double white, very sweet-scented. It increases quickly, and is indispensable in every collection; and of good constitution. In wet weather the flower-stalks are hardly strong enough to support the full double flowers.

Ard Righ.—A very fine flower, and very early. Large golden yellow trumpet and perianth. It has proved with me very robust and prolific.

Cernuus.—This is said in some soils to be delicate, but I have not found it so. It is not so robust and strong growing as the others, but it is necessary to make up the dozen on account of its graceful habit and colour. Both trumpet and perianth are white—not paper-white, but more the colour of white flannel; and I would advise everybody to try it amongst their thirteen.

Troilus.—Very early; a few days before Ard Righ. Strong, upright, robust, most prolific. Trumpet golden yellow, perianth sulphur. I name this instead of obvallaris, which it somewhat resembles, because obvallaris with me is the very reverse of prolific.

In naming these thirteen, the particular points I have in view are variety of colour, season, and form, good constitution, and prolificness; for nothing encourages a beginner so much as when he digs up his clumps, two years after planting, to find he has double or treble the number of bulbs that he purchased. If it had not been so late in the afternoon, I am well aware that Daffodil experts would criticise my list of thirteen, and say "Why don't you include so and so?" My only reply would be, that if all my twenty thousand bulbs were destroyed to-morrow, these are the thirteen varieties I should buy first to begin to re-stock my garden.

Mr. Baker remarked that he had listened with a great deal of interest to the papers which had been read that day. Looking back over a dozen years, he thought it astonishing to see the change which had taken place in the interest taken by the public in the genus Daffodil—surely the most popular, except the primrose, of all the spring flowers. He could not help feeling, however, how very few species were really useful for market-growing purposes. He thought the Society would do well to keep some record from time to time of the different varieties submitted to their Daffodil Committees. The trouble of keeping such record would be amply repaid by the results which would follow. New varieties were constantly being brought forward and the old ones crowded out. In the course of a few years, again, these were superseded by still newer varieties, until, for the want of some official record, many varieties were lost sight of for all practical purposes. In twenty years time this Record Book would be of great value in naming different varieties of the genus.

Mr. Fraser in a few remarks detailed his own experience in cultivating Daffodils.

OBSERVATIONS ON PORTUGUESE NARCISSI.

By Mr. Alfred Wilby Tait, F.L.S., Oporto.

[Read April 9, 1889.]

This spring I have made a few excursions in Northern Portugal with a view to studying more fully the soil, aspect, and general surroundings of the localities where the various species of Narcissus are found. I was accompanied by my friend Mr. Charles S. Gordon, who takes a great interest in this class of plants, and has grown most of the species in England with marked success.

Corbularias.—These begin to flower early; in the marshes near the sea they begin in January and continue in bloom till the end of April; in the higher ground they appear in March, and N. nivalis lasts till July in the high mountain ranges.

I can confirm Mr. Barr's statement that the Corbularias growing in marshes and other damp localities are of a larger size as regards flower, and of a more vigorous habit of growth, than those found in drier and sandier situations; but an exception was met with to this rule, as a few days ago we found a quantity of Corbularias growing on a very damp slope amongst and together with Sphagnum moss, Pinguicula lusitanica, and other marsh plants; this Corbularia had very slender, rush-like recumbent and twisted leaves, and a flower much paler and smaller than the usual form; the same plant, exactly identical in size, habit and flower, was growing on a very dry hill-side in very shallow sandy loam.

On another day, about twenty miles to the north-west of the above locality, we met with the ordinary form growing in immense quantities in a field which had evidently been recently flooded; the soil consisted of almost pure river sand, and we were surprised to find that many of the plants had two flowers on the same scape. I had seldom seen the two-flowered form till then.

Cyclamineus.—These began flowering about the first week in February, and are still in flower (April 12). We have met with three new localities for this beautiful species, all near Oporto.

The original habitat, described and figured by Mr. Barr two years ago, was a striking sight this year; thousands of the golden blooms carpeted the river bank, mixed with primroses and bushes of the tall white heath (*Erica arborea*).

Up till the present I have met with the following varieties of cyclamineus:—

1. A perfectly double-flowered form. The flower resembled that of the common Dutch double Jonquilla, but was larger, and of a greenish yellow, like Telamonius plenus. I found only a single specimen of this, and it has since flowered in the Coimbra Botanic Gardens, still with the double flower.

2. One or two specimens with the cup double.

3. Several specimens with two-flowered scapes; these in cultivation generally revert to the one-flowered form.

The cups of the flowers in this species vary considerably in form; some being straight, very slightly crenulated, and not expanded; whereas in other flowers the cup is decidedly expanded, crenulated, and distinctly lobed. I have compared these with plants collected by Mr. Barr in Spain, and find that the latter are not so expanded as the ordinary Portuguese form, nor are the flowers so large; still, we often find plants here identical with the Spanish form.

N. Johnstoni.—The only locality for this handsome variety is now completely under cultivation, so that very few plants remain; but I have cultivated it in my garden for two years, and the plants are increasing by offsets. No other locality for this species has been met with in Portugal or, as far as I know, in Europe.

Natural Hybrids.—This season we have met with several of these. Three specimens appeared mixed up with a quantity of the yellow Ajax collected near Oporto by a labourer; the flowers were considerably damaged, but enough remained to show that they were of a rich yellow colour, the cup short and like that of triandrus, but the perianth segments were long, as in Pseudo-Narcissus.

Mr. Gordon found two, and my gardener another two, specimens of the supposed hybrid of Pseudo-Narcissus × triandrus, which I had met with in 1886, 1887 and 1888. In the four specimens found this spring the flowers were identical and of the usual pale sulphur colour. This hybrid has been described and figured by Professor Henriques, under the name of Narcissus Taiti, in the "Boletim da Sociedade Broteriana" 1887, vol. v., p. 173; he also figures a two-flowered specimen which I found growing near one of the usual form.

N. triandrus, varieties concolor and pulchellus.—Last year a friend brought me a flower of a triandrus, which appeared to be identical with some triandrus pulchellus sent to me by Mr. Wolley Dod, so this year we visited and carefully studied the plant in its native home. I understand that it is not found in the wild state out of Portugal, and at present we know of only two localities in this country.

In the district we visited last week, we found both the pulchellus and concolor varieties, with intermediate forms, growing together, but only one white triandrus appeared, and the flower had a suspiciously yellow tinge. The plants grew on the strongly inclined rocky slopes of small streams in a shallow peaty loam, damp in winter and very dry and well drained in summer; in every case the plants grew under the shade of pines (Pinus maritima), cork, and arbutus trees. The roots were rather deeply buried; the rock formation was an argillaceous schist with mica and quartz, the strata being vertical, or almost so, and showing signs of a decided displacement or upheaval. The small streams referred to above run from the west, and also from the east, into a larger stream flowing from north to south. A few miles above the junctions, triandrus albus, the white triandrus, is common, and cyclamineus and Bulbocodium are also found, though more rarely; but, from the position of the concolor and pulchellus plants, it is not likely that they can have been washed down the larger stream. I am completely puzzled as to the probable origin of these varieties. A cross of cyclamineus × triandrus albus might have been the origin; but, if so, why do we not find them growing where the parents are in proximity to each other, as the natural hybrids of Pseudo-Narcissus × triandrus, and triandrus × nivalis have invariably been found where the parent species meet and intermingle.

The soil may have some influence on the colour; but, if so, it is curious to find some flowers of a concolorous yellow, and others with a pale cup and darker perianth, as pulchellus. I have received a triandrus concolor from Professor Henriques of a much richer colour; these were collected near the Estrella mountains in Central Portugal. I have sent specimens of the above three varieties to Mr. Barr, who, I hope, will enlighten us on the subject.

Pseudo-Narcissus, var. bicolor.—In 1885 I collected a quantity of plants of a Pseudo-Narcissus, having a white perianth suffused at the base with sulphur. This has been introduced into English gardens under the name of Ajax bicolor lusitanicus. Since then another and very distinct variety of bicolor has been sent to me; in this form the perianth segments, instead of being broad and imbricated, are narrow, pointed, and quite separate at the base, standing at right angles to the cup, and presenting a curious star-like appearance. Of this variety I obtained only six plants, but hope to be able to collect more, so as to introduce them into cultivation in England.

N. scaberulus.—This quaint little species, discovered and described last year* by Professor Henriques, has flowered well under cultivation; it resembles N. juncifolius very closely, differing chiefly in the habit and leaf.

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* Bol. Soc. Brot. VI., p. 45, with figure.

THE AURICULA.

By the Rev. F. D. Horner, M.A., Burton-in-Lonsdale.

[Read April 23, 1889.]

Some one, when asked whether he believed in ghosts or not, replied that, without committing himself to an opinion, he should certainly consider *Appearances* to be in their favour! Even so it has been a question, somewhat vexed, whether the Auricula had a ghost of a chance of appearing again, in the south, from the cold shades of obscurity and neglect. I think, however, from what we continue to see of the Auricula at the southern shows of the National Auricula Society, we may conclude that these appearances are in its favour.

I do not propose to occupy time now with points of Auricula culture, which are well known to cultivators, and probably are of small import to anybody else. I only remark that the cultivation seems to become ever less difficult as to composts; and as to protection, more natural, if we take into account the tenderness of the acquired beauties, and the constitutional modifications of the florist's Auricula. We afford the plants a shelter more congenial than it used to be, safer ventilation, and more abundant light, in cool and airy houses. The plants are much happier there than if shut down in closed frames, while even we ourselves are more comfortable, and of more service to them than we could be, by only catching cold outside, looking in, so to say, at the shop windows.

But I can remember Auriculas set out under garden hedges, much to the advantage of snails and caterpillars; or kept in cold pits, inducive of vegetable cramps and lung diseases; or boxed in long-legged glass cases, as if they were scientific objects for a museum. I have seen them in unpicturesque backyards, and I once saw them down an area, on a level with the coalhole. There was slaughter in those days; and Mr. George Lightbody, of venerable memory in annals of the Auricula, used to tell me that there were some collections which he had under repair regularly every year, replacing with strong plants the dead and gone.

Yet the Auricula is not an unhealthy plant, though there will in time be deaths from old age, which the plants of some varieties seem to reach sooner than do those of other kinds. After a few years' duration in vigour, a plant naturally dwindles away, splits up, or blooms itself out. A whole variety, also, has its declining years, marked by its losing the constancy and power of its earlier qualities, and by becoming more and more difficult to grow.

Probably some old varieties have disappeared, not through being discarded, but by quietly passing away in a gradual decay of faculties and constitutional powers.

So, in our flowers even, do families and titles become extinct, and great names pass to floral history.

I almost think, if lovers of the Auricula could all rest content with the labours of their florist forefathers, none ever striving to enrich and lead the flower on by seedling culture, but content to be, as it were, consumers only, and not producers, it would bring the Auricula down at last to decrepitude and exhaustion—a flower so peculiarly our own, so domesticated, and so changed, that she has left her kindred and her father's house, and has no home but ours.

The vigour of a young variety, once established, is very marked; and even supposing that nothing better than what has been could be hoped for from future seedlings, still, newness of health and strength, together with many a fresh feature in the foliage, would be obtained. There is not one of our florist flowers to which the foliage means so much as it does to the Auricula. In all others it is subservient to the flower itself—is perhaps rather in the way, as with the Chrysanthemum; but in the Auricula the foliage, in character and perfume, is a sister charm and beauty, and the two are inseparable.

Rather than anything else in the culture of this flower, I would touch upon its improvement by seed. All that we have accomplished since the great year of the Primula Conference (1886) I cannot compress within limits reasonable to-day. I will only allude to the "self" class—flowers that have the look of good nature and simplicity, but which are as much given to wrong devices as any other class. But I think we have progress in the "selfs" towards black and rich brown. They require leading away from amiable but weak shades of plum, mostly of reddish tints, which are not capable of much distinctiveness, are very common, as the puce in Phloxes, and not steady to one shade. Violet plums are richer, but apt to shade towards the edge with age, or cold weather, and to be weaker generally on the inner pips. With the crimson selfs I have had a long struggle to obtain the "rose-leaved," notchless petal. The tubes in this class seem, as to colour, inherently golden; at least, I have never had a pale tubed crimson self from seed. The best I have raised, as yet, I have brought with me; but though form and colour and tube are fine, the paste is not sharply enough defined, nor sufficiently circular.

It is very fascinating to follow the first break of a new colour, especially the traces of such a lovely one for the selfs as pink. This has shown some improvement, but it is still too fleeting. It will be a wonderful acquisition when won.

In what are termed the "blue" selfs, the really golden tube is yet a dream of the future, though a very pretty and fairly steadfast light lemon is gained in the new blue, Mrs. Arthur Potts. This is far the best flower in its class; and the fresh lemon tube demonstrates at once, by its effect, that our desire for this property is true to the beauty of that type.

Deep violet shades of blue are more ready to acquire this property than the light ones, both in "selfs" and "edges." In the latter classes I have seen no blue body colour that opens and remains in one unmixed, unchanging shade.

But all classes of the Auricula as yet dwell, like our own selves, in that largest room in all this world—the "room for improvement." Even if we attain to perfection with them, which we need not fear to be doing too often, we shall not reach the ultimatum of the flower. There is no "Ne Plus Ultra," though two Auriculas, of Smith's and Fletcher's, bear that unpretentious name!

But I do say there is good hope of still better things for those who will take thought and pains how best to overcome some weakness, characteristic of a colour or a class. Despite the many sorry tricks that seedlings will play off upon us, our object will be traceable among them; and rewards are just rare enough to make their value felt.

Whether the term of years between the raising and circulation of a worthy seedling will be ever shortened, I cannot say.

Something depends on what may be the reproductive habit of the plant, and something depends upon ourselves. If more among us would raise seedlings, the weariness of waiting for the successes of a few would be lightened, because some one out of many might have an acquisition ready in a livelier succession. Then, too, one good seedling may command another; while, to the raiser, money would be no equivalent, at least not until "the sweet by-and-bye."

Success, of course, is conditional—perhaps highly so. It will depend upon energy and judgment—upon continuity and abundance of efforts—upon impartiality, I may say severity, towards our own productions—upon thoughtful selection of parentage—upon patient, steady aim in following the aspiration of the Auricula in some fresh phase of beauty, indistinct as yet, in the morning mists of its uprising.

For myself, the hope I speak of rests on this: that since I have been enabled to raise seedlings from seedlings, and so by degrees have become independent of some weaker types, and have ceased to hark back to old crosses because in their day they resulted in some measure of success, I find the properties we would develop do become more and more impressed upon the Auricula. Exceptions of course are manifold. I have raised whole flights for nothing good. But still the tendency is marked, the drift is there; and each achievement adds its own impress and volume, its own impetus, to the next succession.

That is no new discovery of mine in floriculture, but it is cheering to find it borne out in the Auricula, a flower that was accounted most slow and difficult to improve.

Perhaps it is noteworthy that seed should not be saved from even the best varieties if they are out of character, as even the best can be at times. In that form, the flower is practically a bad sort; and though the variety bears a good name, yet a faulty specimen shows no respect for family honour and traditions.

In early days of my experience I practised a sort of economy, sparing a flower in good character—perhaps for show—and thinking that a rough one, so long as the variety was good, would do for seed. But while yet I could use only old crosses, I found it the truer economy to employ only the best varieties in their best character for parents.

"Pin-eyed" parents I do not consider a desirable venture, though such flowers are often provokingly brilliant in other properties, notably in beautifully finished golden tubes.

Young plants are the safest seed-bearers. It may be that, from the very human desire to get as much as possible as soon as possible, some large old specimen has been seeded and lost. There was an old idea—and not dead yet—that to seed a valuable plant was the death warrant for it. There is nothing in the idea except that, if a large plant were used, the stout flower stem would probably have too long a hold and pull upon the plant through the summer, and it might die from syncope.

At times I have been asked about failures in saving Auricula seed; and it is in part a mystery, in that some seasons will prove bad seed years. Success, however, largely depends upon early setting for seed—early, I mean, in the flower's life. The stigma is most viscid and susceptible, and the pollen most fresh and abundant, when the flower is but a half-open bud. I only wait till then.

Sometimes, after fertilisation, the young flower progresses no further, as if conscious that its share in the great work of yielding seed is done, and it is folded up. In other cases it will expand, and last until the swelling seed vessel disconnects the flower from its hold within the calyx, comically wearing the displaced corolla on its head, like a hat very much to one side.

With exception of the selfs, the florist Auricula cannot be said to seed freely. Generally only a few capsules will fill well, and there is only one thin layer of angular seed in each, all else inside the pod being but a placental core; and though this is as much a structural necessity as the obtrusive cone inside a wine bottle, it conveys the same impression that the vessel holds more than it really does.

I would advocate a high degree of patience with seed lying ungerminated in the seed pans. I have kept them three years, and found seedlings still coming up. At whatever time seed is sown, it will never all come up at once; some will not be born till many of their fellows have been bloomed and thrown away. Moss threatens to be troublesome, and must be kept under—better from the first—by clear lime-water. Sprinkling powdered lime is not safe if there be much sand in the soil. I used it once, and produced a sort of concrete flooring, and lost many infant plants.

I am irresistibly drawn to the subject of seedling Auriculas, because in both the Southern and Northern shows their appearance is of intense interest.

There is no better public test than exhibitions, where they must meet the old varieties and each other, and pass a severe examination. Still to a very large extent an exhibition does not give a full view of the work accomplished. What may be caught for one particular day is only as an instantaneous photograph, showing a momentary position with respect to new flowers, of which there may not yet be a second plant in existence; whereas of long established and distributed varieties there is great succession and choice.

In the days of the older raisers there were weak flowers produced and accepted, perhaps for variety's sake, if they were anything like an Auricula, perhaps because to equal the best was an impious expectation. But a sterner rule is laid down for us, and I am not sorry for it. A new Auricula is at once taken for judgment before the best of the older flowers; and if it is not worthy, it stands lower than the old second-rates. Some redoubtable champion variety is flung at its diminished head, and that floral missile is at present the grand grey-edge George Lightbody. Even this flower often shows more faults than one, all the more vexatious because it can do better. But at its best it is far too true an Auricula for us to wish to see it driven out of the field. Our aim is rather to surround it with compeers which it will be a great honour to defeat. Towards that—and not in one class only but in all—I feel a quiet assurance that we are progressing.

Another point upon which I would lay all stress is purity. In crosses I would keep class to class to intensify class distinctions, to avoid beaded edges in the green-edged, undecided edges in the greys, and lack of density in the whites. So may the selfs also have their rule of colour to colour. Enterprising exceptions here should be made carefully, for some mixtures only result in dull and common shades of puce, and unattractive tints of plum, to say nothing of fancy sports that scarcely have a name in colour.

To the raiser of seedlings there is a further source of purity—the pureness of the whole collection from weak inferior varieties.

Of course those who are growers only may grow everything; but where plants are used for seed, it is safer that they should keep only the best of company. If that which is otherwise is among them, it is not easy to completely outwit its influence, particularly with respect to yellow selfs and "alpines." The former encourage not only their own potent colour, but also extraordinary mixtures past description, and alpines import traces of their shaded tints.

It may be the view of an extremist, but I think that he who works for seedlings of the highest quality risks sore interference with his best efforts by playing with those confessed muddles known as "fancies." Fancy what our grave fathers would have said to see them here, admitted to our strictly classical florist shows! The Auricula is brought to light once more, and lo! we have the moonlight flights and nightmare fancies of the Auricula exposed to view. The Carnation is in favour again, and florists are allured into consent to raise, keep, multiply, and exhibit along with their most sterling flowers, those which are admittedly delinquents and outside the pale!

You will understand that I am speaking strictly from a florist's point of view, and I think that purity is the florist's best policy.

It is not that I have no love for other plants. I have grown many a wayside, and out-of-the-wayside flower, and I would not deny life and beauty to our florist misfits and defaulters. There is not a flower in the world but what is far too good to despise. I mentioned "fancies," not to carp at them, and scarcely even at their appearance here, if it is understood. But I think they are no little beside the mark in a florist's aim, so far as his floral work concerns his florist flowers. They must in some measure feed upon his time and space; just as, in our trout stream at home, the little salmon smolts, which are illegitimate in the basket, are continually robbing our trout of flies, by virtue of a vigorous growth, and appetite insatiable.

It may be that these "fancy" flowers add to the attraction of the show, if that is any compliment to our correct beauties! It may be that they serve as foil and contrast to our classical flowers. Perchance they give to the outer circle of floriculturists some insight of what the ore is like from which we have extracted our precious metal.

But intrinsically they are here the "how-not-to-do-its" of the Auricula; and whether they tend to strengthen our demonstration of the Auricula in her florist lines of beauty, or to deflect or else confuse the public taste, I am not sure.

At one of our Northern shows a winning exhibitor obtained no offers for any of his high-class flowers, but he was bidden £2 10*s.* for a basketful of "fancies"—sad things! Pale ghosts of aniline dyes; shades of weak mustard; phantom tints of pickled cucumber! It did equal honour to his business head and to his florist heart that he promptly accepted that offer.

Perhaps, too, it is from cognizance of our toleration, expansion, or dilution in this respect that now and again we are favoured, through the papers, with the complaint that our "Little Nationals" do less than they ought, to make supply of beautiful and vigorous border flowers, and thus florists are the first people that ever were blamed for strictly minding their own business.

For a last word let me express the hope that more in our ranks will grow their own seedlings, for to be without them is to miss one feature of incessant interest and freshness. It is to stop at home when they might travel abroad and be the first to see something new. It is to miss the whole charm of exploration and discovery—yea, the very "Traveller's Joy" of floriculture.

DISCUSSION.

Mr. JAMES DOUGLAS, as chairman, apologised for the absence of Mr. J. T. D. Llewelyn, who should have read a paper on Primulas, but who was unavoidably absent owing to public engagements. Mr. Douglas then proceeded to make some remarks upon Alpine Auriculas, referring especially to the green-edged and grey-edged species, and to one of the finest yellow-colour named Buttercup. These were hardy, and could be grown successfully either in a border or in pots.

Mr. SHIRLEY HIBBERD traced the history of the Auricula from the primitive plant which once grew on the margin of a stream to the most elaborate hybrid now cultivated in our greenhouses. The Auricula could be traced back for 300 years, and the beautifully-edged flowers dated from 1734. After a great number of experiments we had got back to the original form of the flower, but not to the original colour, at least not to the satisfaction of botanists. The speaker deprecated the indefinite extension of fancy species, what we wanted was to raise stocks of really first-class varieties. He should be very sorry if ever this beautiful flower were excluded from our gardens, where it is now so generally cultivated.

Mr. DOUGLAS added, as a proof of the hardiness of the Auricula, the case of a working man who had most successfully cultivated the plant and raised a most strikingly new variety in an open garden in the smoky atmosphere of Sheffield.

ORCHID CULTURE PAST AND PRESENT.

By Mr. H. J. VEITCH, F.L.S., F.R.H.S.

[Read June 11, 1889.]

IN accordance with the request of the Council that I should to-day treat about Orchids, I propose to review, as concisely as the subject admits, the progress of the cultivation of the Epiphytal Orchids from their first introduction into British gardens up to the present time. In the course of this retrospect I shall point out some of the difficulties which our predecessors had to contend with in this branch of horticulture, and how they succeeded, at least in part, in overcoming them, and thence from their successes and failures to derive, if possible, some practical hints for our own guidance.

The first tropical orchid that became established in the hot-houses of Great Britain seems to have been the Vanilla, which was known to Miller, the second edition of whose Dictionary of Gardening was published in 1768. Miller also enumerates several species of Epidendrum some of which must have been known to him in a living state, for he says: "The plants cannot by any art yet known be cultivated in the ground, though, could they be brought to thrive, many of them produce very fine flowers of uncommon form." Three species sent from America, which he planted with care in pots and placed in a stove, produced flowers, but the plants soon after perished.

A few years later Dr. John Fothergill brought home from China, among other plants introduced for the first time into

British gardens, some Orchids, including Phaius grandifolius (Bletia Tankervilleæ) and Cymbidium ensifolium; these were cultivated by him prior to 1780. In 1787 Epidendrum cochleatum flowered for the first time in this country in the Royal Gardens at Kew, and E. fragrans in October of the following year. Seven years later, fifteen species, chiefly West Indian Epidendra, are recorded as being cultivated in the Royal Gardens, "in very great heat, and with fragments of half-rotten bark at their roots."

As a consequence of the political circumstances of the times, the first epiphytal Orchids received in England were brought from the West Indies, chiefly from Jamaica, by naval officers and by captains in the merchant service, who gave no certain information respecting the habits of the plants and their environment in their native country beyond the bare fact that they grew on trees. They were thence believed to be parasites like the Mistletoe of our woods and orchards, a belief that became so firmly rooted that it held its sway for many years even after their true character had been determined by Dr. Robert Brown and Dr. Lindley. The prevalence of this belief was prejudicial to the progress of Orchid culture, for it induced attempts at cultivation that were necessarily futile. The Editor of the *Botanical Register*, under tab. 17, Epidendrum nutans, which was first brought to England from the West Indies by Admiral Bligh in 1793, quaintly remarks that "the cultivation of tropical parasites was long regarded as hopeless; it appeared a vain attempt to find substitutes for the various trees each species might affect, within the limits of a hot-house."

Nevertheless Orchids continued to be imported, and even in those days, when a voyage to or from the West Indies occupied two months, their extraordinary tenacity of life after removal from the trees on which they were found growing was observed.

Of the treatment the plants received we can only here and there catch a glimpse from the occasional notes that appeared from time to time in the *Botanical Magazine*, which had been founded by William Curtis in 1793. Thus, under tab. 387, Cymbidium aloifolium, which had been received from India by Mr. Vere, of Kensington, a few years previously, it is stated that this plant was placed in a pot of earth and plunged into the tan bed of the stove, where it grew but did not flower. This species was also cultivated at the same time by Messrs. Greenwood and Wyke, nurserymen, at Kensington, who, instead of plunging the pot into the tan, placed it on the floor of the stove: it then flowered. From other notes we gather that the usual treatment of Orchids at this period was to pot them in a mixture of loam and peat, and keep them constantly plunged in the tan bed of the stove. That they should soon succumb to such treatment seems to us but a very natural consequence; nevertheless, it seems to have been generally persisted in for many years.

The first fifteen years of the present century were overshadowed by the Napoleonic wars, which retarded every art that can only flourish in times of peace. Nevertheless, in the very throes of that tremendous struggle, the Horticultural Society of London was founded, and obtained its charter of incorporation in 1809. From that time horticulture may be said to have entered into public life, and to have received an impetus it never could have had from the isolated efforts of private individuals. Orchids, till then regarded more as curiosities than as subjects to be seriously taken in hand culturally, began to come more to the front, for the Messrs. Loddiges began to cultivate them for sale in their Hackney nursery about the year 1812; and about that time too, or a little later, Dr. Roxburgh sent from India the first Vanda, the first Aërides, and the first Dendrobium that were seen alive in England. In the same year too, Messrs. Loddiges received a plant of Oncidium bifolium from a gentleman who brought it from Monte Video, and who informed them that "it was hung up in the cabin without earth, and continued to flower during a great part of the voyage home;" a statement that was then regarded as a traveller's tale and beyond the limits of credulity.

The "air plants," as the Vandas, Aërides, and Saccolabiums were then called, were a puzzle to the horticulturists of that time, and how profound was the prevailing ignorance of their true character may be judged from the following extract from the *Botanical Register* for 1817, under tab. 220, Aërides (Sarcanthus) paniculatum:—"Air plants possess the faculty of growing when suspended so as to be cut off from all sustenance but that derived immediately from the atmosphere. Plants of other genera of this tribe, and even of a different tribe, are endowed with a like faculty; in none, however, can such insulation be considered as the state of existence which suits them best, but merely as one they are enabled to endure, as a carp is known to do, that of being suspended out of water in a damp cellar."

To keep alive an air plant for any length of time, and to flower it, was regarded as a feat of extraordinary interest. The first who seems to have accomplished it was Mr. Fairbairn, the gardener at Claremont, who flowered Aërides odoratum in 1813. How he succeeded may be related in his own words: "I put the plant when first received into a basket with old tan and moss, and hung it up in the pine house, where it was exposed to the summer sun and to the fire heat in winter. A tub of water was placed near it, so that I could plunge the basket six or seven times a day, or as often as I passed it." Some years later the same excellent gardener flowered Renanthera coccinea for the first time in this country.

Towards the end of the second decade of this century, Sir Joseph Banks had devised one of the most successful modes of treating epiphytal Orchids then known, and which he practised in his hot-house at Isleworth: "He placed the plants separately in light cylindrical wicker baskets or cages of suitable width, of which the framework was of long slender twigs wattled together at the bottom, the upper portion being left open that the plant might extend its growth in any direction and yet be kept steady in its station, the ends of the twigs having been tied together by the twine that suspends the whole to the wood-work of the stove. A thin layer of vegetable mould was strewed on the floor of the basket on which the rootstock was placed, and then covered slightly over with a sufficiency of moss to shade it and preserve a due degree of moisture." This was the first rude forerunner of our modern Orchid basket, and the first instance I find recorded of moss being used for surfacing.

Loddiges at this time made their compost of rotten wood and moss, with a small quantity of sand. Their Orchid stove was heated by brick flues to as high a temperature as could be obtained by that means, and by a tan bed in the middle kept constantly moist by watering, and from which a steamy evaporation was rising at all times without any ventilation from without. Their method was, of course, imitated by probably all cultivators.

To these hot steamy places Orchids were consigned as soon as received, and into which, it was occasionally remarked, it was as dangerous to health and comfort to enter as it was into the damp close jungle in which *all* tropical Orchids were then supposed to have their home.

The want of success that attended the preservation of the plants in such places for any length of time was supposed to be due to some peculiar difficulty in their cultivation, and it was resolved that an attempt should be made in the garden of the Horticultural Society to overcome it. A stove was accordingly set apart for their exclusive culture, and when subsequently Mr. (afterwards Dr.) John Lindley was appointed assistant secretary to the Society, the chief direction of it fell into his hands. "The first experiments were unsuccessful; the plants were lost as quickly as they were received." This led Lindley to inquire more closely into the conditions under which Orchids grow in their native countries, and which, if accurately ascertained, would, he believed, supply data for a more successful cultivation of them. The results of his inquiry, and the inferences he drew from them, are contained in a paper which he read before the Society in May 1830. It is evident from this paper that the information he obtained was far too restricted, and held good only for a limited area; hence from such imperfect premises the conclusions could scarcely be otherwise than fallacious.

For example, Mr. William Harrison, a merchant residing at Rio de Janeiro, and who for some years previously had sent many fine Orchids to his brothers at Liverpool, informed him that in Brazil "they *exclusively* occupy damp woods and rich valleys among vegetation of a most luxuriant description by which they are embowered." The word *exclusively* was unfortunate, for we now know that most of the finest of the Brazilian Cattleyas and Lælias occur at considerable elevations, and often in exposed situations. And Dr. Wallich, to whom we owe the first introduction of many fine Dendrobes, told him that "In Nepaul, the thicker the forest, the more shady the trees, the richer and blacker the natural soil, the more profuse are the Orchids." From such data Lindley concluded that high temperature, deep shade, and excessive humidity are the conditions essential to the well-being of the plants, and he framed his cultural recommendations accordingly, including among them good drainage for the plants, which appears hitherto to have been generally neglected, but making no mention of ventilation.

So predominant had Lindley's influence at that time become in all matters pertaining to Orchids, whether as the chief botanical authority on them, or from the position he held in the Society, that the unhealthy *régime* of cultural treatment approved by him became, as it were, the only orthodox one, and was generally persisted in in all its essential points for upwards of thirty years after the publication of the paper just now mentioned, so that when thirteen years later Mr. Bateman formulated a course of cultural treatment for tropical Orchids in the introduction to his *Orchidaceæ of Mexico and Guatemala*, it differed but little from Dr. Lindley's recommendations, except the important direction to give the plants a season of rest. It is, however, only just to the memory of Dr. Lindley to add that, when later, as more correct information came to hand respecting the habitats of Orchids and their environment *in situ*, he was one of the first to note the fact, and to give cultivators a friendly warning—thus, in the *Botanical Register* for 1835, under tab. 1697 (Oncidium ampliatum), we find the following remarks: "It is well known that the most considerable part of the epiphytal Orchids is found in the greatest vigour in damp, sultry woods in tropical countries, and accordingly we endeavour, in our artificial cultivation, to form an atmosphere for them as nearly as possible that which they would naturally breathe in such stations. That this is attended with very great success is obvious from the numerous splendid specimens which are from time to time appearing in various collections. But it is sufficiently evident that, although this kind of treatment is admirably suited to a considerable number, there are others that grow most unwillingly, or scarcely survive, under such circumstances. If a great majority of epiphytal Orchids swarm in damp tropical forests, there is a considerable minority which live in an entirely different climate." And during his long editorship of the *Gardener's Chronicle* he constantly published such items of information as came to hand that he believed would afford useful hints to cultivators.

But what were the splendid specimens he speaks of? Chiefly Brazilian Maxillarias, West Indian Epidendra, Cataseta, Mormodes, and the like; not the grand Cattleyas, elegant Odontoglots, and brilliant Masdevallias of our time; for such of these as were then imported were doomed to certain destruction in the hot, steamy, unventilated stoves to which they were consigned on their arrival in England, and to the temperature of which they were as great strangers as to our severest winter frosts. And thus perished, within a few months, most of the earliest introduced Cattleyas, Lælias, Odontoglots, and Oncids, but not without a protest from men who had seen them and other subtropical Orchids in their native wilds. So early as 1835 Allan Cunningham reported to Dr. Lindley how different were the conditions under which Australian orchids grew in their native country from those to which they were subjected in the hothouses of England, and that they should soon perish in them seemed to him but a very natural consequence. Then followed Gibson, who had collected Orchids on the Khasia Hills for the Duke of Devonshire, Gardner on the Organ mountains, William Lobb on the Peruvian Andes, Mr. Ure Skinner on the Cordilleras of Guatemala, Mr. Motley on the mountains of Java. These, one and all, gave utterance to monitory warnings against the folly of subjecting Orchids which naturally grew in a temperate climate to the stifling heat of an Indian jungle. In fact, it was high time that such warnings should be given, for, as private collections were being formed and multiplied, and as high prices were being paid for the choicer kinds, epiphytal Orchids were poured into the country in a continually increasing stream, only too often to tantalise the purchasers with a sight of their lovely flowers and curious forms, and then to languish and die. For more than half a century England was, as Sir Joseph Hooker once observed, "the grave of tropical Orchids."

But a change of system was at length approaching, not brought about so much by the remonstrance of the travellers just mentioned, as by the intelligence and sagacity of a few practical gardeners on whom had been laid the responsibility of cultivating the costly collections of their employers. One of the first of these was Joseph Cooper, gardener to Earl Fitzwilliam at Wentworth. Dr. (afterwards Sir William) Hooker, who visited the Orchid house at Wentworth in 1835, was surprised at the degree of success with which the plants were cultivated there, and adds: "I must confess that the sight of this collection, whether the vigorous growth and beauty of the foliage, or the number of splendid specimens blooming at one time, be considered, far exceeded my warmest anticipations." (*Bot. Mag. sub* tab. 3,395.)

Cooper's chief deviations from the established practice consisted in a lower mean temperature and the admission of fresh air into the house. A still bolder innovation was adopted shortly afterwards by Paxton at Chatsworth, which caused as much surprise to Dr. Lindley as Cooper's treatment had to Dr. Hooker. Under tab. 5 (Stanhopea quadricornis), in the *Botanical Register* for 1838, Dr. Lindley writes: "The success with which epiphytes are cultivated by Mr. Paxton is wonderful, and the climate in which this is effected, instead of being so hot and damp that the plants can only be seen with as much peril as if one had to visit them in an Indian jungle, is as mild and delightful as that of Madeira." The salient points of Paxton's treatment may be thus summarised—a lower temperature with a purer atmosphere; an improved method of potting with especial regard to efficient drainage; the maintaining of a moist atmosphere by occasionally watering the paths and stages of the house, and greater attention to root development. We here see an approach to the cultural routine of the present day; but twenty years had yet to elapse before the prevailing notions respecting Orchid culture finally gave way.

Close upon Paxton followed Donald Beaton, who for a few years had charge of Mr. Harris's collection of Orchids at Kingsbury. Beaton insisted upon more attention being paid than hitherto to the climatic conditions under which Orchids grow at high altitudes within the tropics, and the consequent necessity of adapting their cultural treatment accordingly. In proof of his assertions he sent to Sir William Hooker, who characterised Beaton "as one of the ablest and most scientific gardeners in this country," the details of his successful management of a consignment of Orchids his employer had received from Mexico, and which had been collected by Galeotti at 7,500–9,000 feet elevation. These details are published in the *Botanical Magazine* for 1841, under tab. 3804 (Lælia anceps).

Long, however, before the period at which I have now arrived, a revolution had been slowly but surely effected which had an enormous influence on the cultivation of plants under glass, and contributed in no small degree to the improvement in Orchid culture that subsequently followed. This was the heating of glass-houses by means of hot-water pipes, which were first used for this purpose on a small scale by Mr. Anthony Bacon, at Aberaman, in Glamorganshire, and afterwards by the same gentleman at Elcot, near Newbury. The inventor of the process is said to have been a Mr. Atkinson. The change from the brick flue with the tan bed to heating by hot water was nothing less than the substitution of the power of regulating the equality of the temperature for too great inequality; the obtaining of almost perfect control over the heating power, with a great diminution of the labour of attending to the fires, in the place of a very imperfect control with unremitting attention day and night; the admission of fresh warmed air in lieu of no ventilation at all, to say nothing of the smoke and noxious vapours that were constantly escaping through the cracks and fissures of the flue.

Such a combination of circumstances could scarcely fail sooner or later to bring about a change in the cultural methods that had been in vogue so long—a change that was to result not only in a more rational treatment of Orchids coming from high altitudes, but also in a modification of that applied to purely tropical kinds. And so it happened; but the change was so slow and so gradual in taking place, that, looking back upon the state of Orchid culture forty years ago, and upon what we are now accustomed to see daily, one can scarcely suppress a feeling of astonishment that its history should present to us the phase it does. During the twenty years that elapsed between 1840 and 1860, that is to say, from about the time that Mr. Barker, of Birmingham, sent Ross to Mexico, and when Linden began to make known to science and to horticulture the surprising wealth of Cattleyas and Odontoglots inhabiting the Cordilleras of New Granada—these plants perished under the barbarous treatment they received in the hot-houses of this country almost as fast as they were imported. To such an extent were the losses felt, that Lindley, in a remarkable article published in the *Gardeners' Chronicle* towards the end of 1859, pronounced their treatment "a deplorable failure," and which Mr. Bateman also some years later characterised as "incredible folly." But the spell which had held Orchid culture in thraldom for half a century was at length broken, and with the despatch of Weir by the Horticultural Society of London; of Blunt, by Messrs. Low & Co., of Clapton; and of Schlim, by M. Linden, of Brussels, to collect Cattleyas and Odontoglots in New Granada, was inaugurated a new era in Orchid culture.

I have now arrived at an epoch within the memory of most living cultivators, and which may not be inaptly regarded as the commencement of the period of modern Orchid culture. Into the details of the practice of the present time it is not my purpose to enter; it is sufficient to note that among the most obvious improvements of recent times must be included—larger and more airy structures with separate compartments for different climates (for large collections even separate houses); a lower average temperature; the admission of more light and air, and a better system of heating, shading and ventilation. Of the advantages that have accrued from these improvements we have innumerable proofs; but shall we regard our present Orchid culture, so far as ourselves are concerned, as practically perfect, and, resting satisfied with our achievements, leave to our successors the task of making a further advance if they can? Such a course is surely unworthy of our calling and of ourselves. Let us rather bring to the front some of the defects that remain and try to discover a remedy for them. To cite instances: How many can yet boast of growing successfully for half a dozen consecutive years such Orchids as Cattleya citrina, Lælia albida, L. majalis, L. autumnalis, Epidendrum vitellinum, E. nemorale, and others from the Mexican highlands? Who has yet cultivated the Barkerias and the group of Brazilian Oncids represented by Oncidium crispum, O. Forbesii, O. Marshallianum, O. sarcodes, O. varicosum and their allies, for any length of time, and has not had to deplore the gradual decline of the plants till they died outright? How is it that such fine Dendrobes as Dendrobium formosum, D. Bensoniæ, D. MacCarthiæ, D. Parishii, D. bigibbum, and others, are still refractory subjects? That the noble group of Zygopetalæ known as Bolleas, Huntleyas, Pescatoreas, &c., refuse to thrive for any length of time in our houses? And why, moreover, are we still obliged to regard as difficult plants to cultivate, such fine Orchids as Cattleya Aclandiæ, C. superba, Chysis bractescens, Colax jugosus, Grammatophyllum Ellisii, Diacrium bicornutum, and others that can be named? Doubtless the impossibility of exactly, or even approximately imitating in our houses the climatic conditions under which these Orchids grow in their native countries, together with our still imperfect acquaintance with their surroundings *in situ*, has much to do with the failure to cultivate them satisfactorily. But ought we to be content with such crude empiricisms as hanging them up first in one place, then in another, then in a third, and finally leaving them to their fate?

I invite discussion on these points.

There is another subject to be mooted, one that has an important bearing on Orchid culture in the immediate future. The large and constantly increasing number of Orchid collections in this country, as well as in America and on the continent of Europe, has called into existence a class of gardeners whose sole occupation is the cultivation of Orchids, than which no branch of horticulture exacts a greater amount of intelligence, of careful and accurate observation, with ability to collate and to compare the facts observed, and to deduce practical conclusions from them. The Orchid gardeners of the present day unquestionably possess intelligence; they have also within their reach educational advantages to which their predecessors were strangers, as to them Educational Codes and School Boards were unknown. The simplest truths are often slow in making their way, and the history of Orchid culture bears painful testimony to this fact as regards the horticultural mind. Will it be so in the immediate future, as it was in the past? Will the generality of Orchid growers go on in the same groove year after year, performing mechanically rather than intelligently the routine they have learned, and thence perpetuate indefinitely the culture now practised with all its excellences and with all its defects, as their predecessors did that which they had learned till the force of circumstances compelled them to alter it? Seeing how greatly Orchid culture was retarded from geographical and other important details being disregarded by the Orchid gardeners of the past, will those of to-day still show the same indifference to an elementary knowledge of so important a subject when high-class text books are within their reach? Will they show too the same indifference to correct nomenclature, that they cannot in many instances be relied upon for the right names of the plants they cultivate? The consideration of such questions as these certainly comes within the scope of the Royal Horticultural Society, and let us hope that occasional discussions upon them may lead to useful results.

DISCUSSION.

Sir TREVOR LAWRENCE said his recollection of Orchids went back many years, and some of the old modes of cultivation mentioned by Mr. Veitch had come within his own experience. He could remember Odontoglossum, which was now looked upon as a cool Orchid, being placed in hot stoves. He recollected some beautiful Bolleas which grew and thrived well for a short time and then withered and died. The fact was that these plants very often brought with them a large amount of natural vigour which enabled them to survive for a few years, but finally the change of climate and mode of cultivation killed them. With regard to the cultivation of Catasetums, he thought the difficulties were almost entirely unsurmounted, especially in the matter of providing them in the winter with a warm, dry, and bright atmosphere, and until these difficulties had been overcome he was afraid the cultivation of Mexican Oncidiums would also be a difficulty and a crux. One species—Epidendrum vitellinum—which Mr. Veitch had referred to as being hard to cultivate, was exhibited here to-day, and in this case the difficulty of cultivation would appear to have been surmounted by the grower. He thought with Mr. Veitch that there was too much empiricism among growers of Orchids as to the mode of cultivation. He was pleased to say that the interest taken in Orchids in this country was on the increase, and he had no doubt that before very long those successful methods of cultivation which we already possessed would be still further developed. With regard to the longevity of Orchids, he had one which he knew had been in this country for more than fifty years, and probably for twenty years longer than that—viz., Renanthera coccinea. He was glad to say that the cultivation of Orchids in Kew Gardens, a public institution to which they owed a good deal, had very greatly improved. Kew was indeed a model horticultural institution, as well as a botanical institution. It would be quite impossible to refer to this subject without mentioning what had been done by the author of this paper himself in this branch of horticulture. We owed not a few of the most beautiful Orchids to the skill which has been brought to bear upon the subject by the firm of which Mr. Veitch was the head. A gentleman present had told him that some plants of Saccolabium, which he had found upon mountains in India, had had hoar frost upon them, and he, the Chairman, had found them growing in ravines where there must be several degrees of frost and not an inconsiderable amount of snow.

Sir CHAS. STRICKLAND agreed with the remarks which had been made as to empiricism in the treatment of Orchids, but thought it should be remembered that these plants cannot be grown in their natural state because they cannot be grown out of doors in this country. He had grown a number of Orchids, and amongst them Cattleya citrina, which Mr. Veitch had referred to as being hard to rear, and he had found that this and other Mexican Orchids grew best in ordinary greenhouses. He had grown C. citrina for fifteen or sixteen years, and the last bulbs were larger than any of the others had been. They did very well in an ordinary greenhouse until the latter part of the summer, when they should be removed to a warm vinery. Referring to Lælia majalis, he said that the damp coldness of our winters was very destructive to it; what it really wanted was a tropical winter, which was comparatively dry. He had once left some plants out of doors longer than they should have been, and they were exposed to 16 degrees of frost, which injured them somewhat, but they recovered. The speaker had also had Vanda cærulea in a house which was not free from frost. One reason of the failure in the cultivation of Orchids was the difficulty in providing in one or more houses the requisite climatic conditions for so many different species. The tropics of South America were different from those of Asia. In many parts of the former the temperature varied very little throughout the year, so that Orchids brought from tropical Asia, with a very variable climate, could not be successfully grown in the same house with those brought from South America.

Mr. THISELTON DYER said that the President had been good enough to refer to what they had been trying to do at Kew.

Nothing could be more gratifying to the staff at Kew than the fact that their work had attracted the attention of men distinguished in the craft. There was one difficulty to contend with at Kew—they had somewhat antiquated houses, over the construction of which they had no control. They could not, therefore, like Mr. Veitch and others, separate Indian from American Orchids. This was a difficulty which would also exist in private gardens. He thought Mr. Veitch had given an historical retrospect which must have cost him a good deal of trouble, and though some of what they had heard was already known to Orchid growers present, the paper contained many rare and interesting items of information. Nothing could be more instructive than the contrasts between the past and present which Mr. Veitch had put before them. There was no reason to despair. A more careful study of the physical conditions under which Orchid plants grew in their native country would materially advance the cultivation. Collectors, as a rule, made raids upon a country and bore away new plants without stopping to inquire into their habits or climatic environments. A year's residence would do more good than any number of these raids. Epidendrum bicornutum, a beautiful species, had been very successfully grown at Kew, and for this they were indebted to the fact that they had carefully studied its requirements. He ought to refer to a subject which was occupying the minds of Orchid cultivators in this country, and that was the future naming of Orchids now Prof. Reichenbach was dead, who had accentuated the loss to Horticulture by practically burying his herbarium for the next quarter of a century. The late Professor was in the habit of receiving specimens for identification from all parts of the world, but more especially from this country, and his decisions were regularly published in the *Gardeners' Chronicle*, but as the types of these species were in his private herbarium, they were practically lost to the majority of living cultivators. However, with the cooperation of Orchid growers it would be possible to substantially repair the loss, for there must be many of the species still in the possession of cultivators in this country, and if specimens of these were regularly forwarded to Kew as they flowered, a collection of named Orchids would soon be established here that would practically replace all we had lost in the Reichenbach herbarium.

Mr. D. Morris (Treasurer R.H.S.) characterised Mr. Veitch's paper as eminently practical and instructive. Reference had been made to Phaius grandifolius, an East Indian Orchid, which is now thoroughly naturalised in Jamaica and other West Indian Islands. This is possibly the most striking instance we possessed of the naturalisation of an Orchid. It is now found in mountainous parts of Jamaica, away from cultivation, and at first sight it would be taken for an indigenous plant. Its history, however, is well known. It was introduced from China or Japan to the West Indies about 1797, under its old name of Bletia Tankervilleæ. Mr. Thiselton Dyer has referred to the successful cultivation at Kew of Diacrium (Epidendrum) bicornutum. This plant in a wild state is found growing on rocks or small islets (Bocas), near Trinidad, so close to the sea that they must often be bathed by salt spray. The pseudo-bulbs are hollow and inhabited by a small ant. The best conditions for the successful culture of this Orchid are found in a hot moist treatment during growth, followed by plenty of sunlight to ripen the pseudo-bulbs. There was a well-founded fear that Orchids in the future would not be obtainable in the natural forests so plentifully as in the past. Mr. Veitch was practically meeting this by his wonderful hybridisation of Orchids, and by producing plants that were marvellous both in form and colour.

Dr. Masters wished to emphasise what Mr. Thiselton Dyer had said regarding the nomenclature of Orchids. He knew that many duplicate dried specimens of the Orchids submitted to the late Prof. Reichenbach were preserved in this country, some by Messrs. Veitch, some by Messrs. Sander, and some by private individuals, and in those very few cases, where only one specimen had been obtained, he thought they might afford to wait twenty-five years. He would like to point out that much might be gained, from a cultural point of view, by studying the anatomy of Orchids. The structure of the leaf was very variable in different species, and afforded indications as to the proper treatment in regard to light, shading, and moisture.

Baron Schröder said he had listened with a great deal of pleasure both to Mr. Veitch's interesting and instructive paper and to the discussion which had followed it. He was rather a large grower of Orchids himself, and took a great interest in their cultivation. He thought that the tendency was still to keep Orchids in too high a temperature. He had very much pleasure in proposing a hearty vote of thanks to Mr. Veitch.

[NOTE.—As a result of the discussion which took place after Mr. Veitch's paper, an invitation was issued by the Royal Horticultural Society to Orchid growers and others interested in the nomenclature of Orchids, to a meeting at the rooms of the Society on Wednesday, July 24, 1889. Consequent upon the death of Professor Reichenbach, who for many years had been looked upon as the great authority on Orchids, it was felt desirable in the interest of scientific botany as well as of horticulture generally to take some steps to maintain a system of nomenclature for Orchids in harmony with that applicable to other plants.

The Laws of Botanical Nomenclature have been fully treated by several writers. Reference may here be made to the *Laws of Botanical Nomenclature*, by Alphonse de Candolle, Paris, 1867. English Translation, published by Reeve & Co., Henrietta Street, W.C., 1868; the *Nomenclature of Garden Plants*, by Dr. Masters, *Journal of the Royal Horticultural Society*, 1878, p. 126; and to Dr. Wittmack's Essay in *Mémoires du Congrès d'Horticulture*, Paris, 1887.

As regards Orchids in particular, Mr. H. N. Ridley, M.A., F.L.S., offered excellent suggestions on Nomenclature to the Conference held at Liverpool, June 30, 1886 (*Journal of the Royal Horticultural Society*, vol. vii., pp. 297–312.)

At the meeting held on July 24 (the President, Sir Trevor Lawrence, Bart., M.P., in the chair) the following resolution was proposed by Dr. Masters, seconded by Mr. Courtauld, and carried unanimously:—

"That the Council of the R.H.S. be requested to nominate a Committee in which botanists, importers of new plants, raisers and growers, shall be represented, to draw up a code of regulations applicable to plants introduced into and cultivated in gardens; such code, when duly approved, to be considered binding on the officials and committees of the Society, and recommended for universal adoption."]

SPECIAL NOTICE.

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A quantity of very fine Gros Colmar Grapes are now available for Fellows of the Society, and will be supplied on application at the rate of 2s. 6d. per lb. All applications by letter should contain Postal Order for the amount required, together with an additional 8d. per lb. for postage and packing.

Apply to Mr. Barron, R. H. S. Gardens, Chiswick, near London.

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Any Fellow can, by enclosing a ready stamped and addressed envelope under cover to Mr. BARRON, *R.H.S. Gardens, Chiswick, obtain seed of the new "Conference Tomato," lately raised in the Society's Gardens. Each application should have written on the upper left-hand corner of the outside envelope "Conference Tomato." The seed will be sent out on December* 10, *and the distribution continue as long as the supply of seed holds out. This distribution is confined to Fellows only, and no Fellow can claim more than one packet of seed.*

cultivation. He thought that the tendency was still to keep Orchids in too high a temperature. He had very much pleasure in proposing a hearty vote of thanks to Mr. Veitch.

[NOTE.—As a result of the discussion which took place after Mr. Veitch's paper, an invitation was issued by the Royal Horticultural Society to Orchid growers and others interested in the nomenclature of Orchids, to a meeting at the rooms of the Society on Wednesday, July 24, 1889. Consequent upon the death of Professor Reichenbach, who for many years had been looked upon as the great authority on Orchids, it was felt desirable in the interest of scientific botany as well as of horticulture generally to take some steps to maintain a system of nomenclature for Orchids in harmony with that applicable to other plants.

The Laws of Botanical Nomenclature have been fully treated by several writers. Reference may here be made to the *Laws of Botanical Nomenclature*, by Alphonse de Candolle, Paris, 1867. English Translation, published by Reeve & Co., Henrietta Street, W.C., 1868; the *Nomenclature of Garden Plants*, by Dr. Masters, *Journal of the Royal Horticultural Society*, 1878, p. 126; and to Dr. Wittmack's Essay in *Mémoires du Congrès d'Horticulture*, Paris, 1887.

As regards Orchids in particular, Mr. H. N. Ridley, M.A., F.L.S., offered excellent suggestions on Nomenclature to the Conference held at Liverpool, June 30, 1886 (*Journal of the Royal Horticultural Society*, vol. vii., pp. 297-312.)

At the meeting held on July 24 (the President, Sir Trevor Lawrence, Bart., M.P., in the chair) the following resolution was proposed by Dr. Masters, seconded by Mr. Courtauld, and carried unanimously:—

"That the Council of the R.H.S. be requested to nominate a Committee in which botanists, importers of new plants, raisers and growers, shall be represented, to draw up a code of regulations applicable to plants introduced into and cultivated in gardens; such code, when duly approved, to be considered binding on the officials and committees of the Society, and recommended for universal adoption."]

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ROYAL HORTICULTURAL SOCIETY.

ON IRISES.

By Professor MICHAEL FOSTER, Sec. R.S.

[Read May 14, 1889.]

A FRIEND of mine is fond of calling Horticulture a "pious occupation," giving as his reason the old saying of the ancients: "The gods rejoice when they see a good man struggling with adversity"; and, indeed, I imagine that you are all ready to admit both that gardeners are good men, and that their occupation leads them to struggle with adversity. I, too, in my gardening, have had to struggle with adversity, and to-day I feel that the struggle is especially severe. When I promised to say a few words to-day on Irises, I hoped that I should have before me abundance of specimens to illustrate what I had to say. But, alas! the season, like most seasons of our experience, has proved an adverse one, and I have to struggle against the difficulty of having nearly a bare table before me. My friends at Kew and at Cambridge, and Mr. Barr, have kindly helped me as best they could. But the fact is very few Irises are as yet in bloom, and most of the few in bloom have been spoilt by the rain. However, I must make the best of a bad bargain, and, taking refuge in an old nursery expedient, make believe, and ask you to make believe, that the Irises of which I am about to speak are really here.

Let me first of all, as a sort of rejoinder to the saying of my friend which I quoted just now, remind you that gardening, especially that kind of gardening which the Royal Horticultural Society, in the midst of all its ups and downs, has done so much to foster, may more properly be called an impious occupation. For what does the gardener, especially the gardener who cherishes hardy perennial and bulbous plants, do? He makes every effort to gather from all parts of the world plants living in the most diverse climates, on the most diverse soils, and amid the most diverse circumstances, and tries to grow them all together in the same small plot of ground which he calls his garden, under the same climate (if we dare to call the meteorological conditions which obtain in England by such an honourable name as climate), under conditions which we can vary very little, and in soil which at best we can only superficially alter by adding or taking away a barrowful of this or that. This is at least what I try to do with the Iris. There are some two hundred or so kinds of Iris growing under the most diverse circumstances, scattered over the temperate zone of the old world and the new; and I am making every effort to get every one of these two hundred to live huddled together in a little spot in Cambridgeshire. Now, whatever theoretical view we may take as to how the several different kinds or species of plants first came into existence, there can be no doubt that each kind thrives and maintains its existence because it is more or less suited to the particular conditions amid which we find it living in a wild state. The glorious diversity of plant life is a token of Nature's care to adapt the individual plants to the diversity of conditions which obtains on the globe. But the plants which Nature has thus put asunder, in order that each might avail itself of special conditions, the impious gardener, flying in the face of Providence, tries to sweep together into a common prison, where the conditions for each are all alike, and for the majority of these distinctly bad. Is it to be wondered, then, that floral treasures, collected from afar with great trouble and expense, pine in their exile for the air and the soil of their native home, and after throwing out a feeble bloom, or not even that, faint, fade away, and are no more?

We gardeners may, however, lessen our impiety and gain a corresponding reward in the shape of success if, as far as lies in our power, we strive to surround our favourites with the features of the home from which they have been taken. It is, I take it, the duty of a gardener, who desires to grow in his garden a plant brought from afar, to learn as much as he can of its habits and surroundings in its native home, and to imitate these as far as he can. This leading, let me warn you, is not always a true one. Plants have their misfortunes as men have.

Many a plant may be found growing wild in a spot and under conditions which are not those for which it is really adapted. Many a plant has been driven by stress of fortune from its proper place, and may be found, with its back against the wall, so to speak, fighting against adverse circumstances, and often maintaining with difficulty the very barest existence. Still such plants are, on the whole, exceptions, not the rule; and we may safely take as the gardener's guide the maxim: If we want a plant to seem at home, try and make for it a home like that in which it was found.

In many cases the plant itself, by its very features, will give you directions as to how you ought to treat it. This is at least often the case with Irises. Let me in illustration of this call your attention to the Iris which I now hold in my hand, and which belongs to a group of Irises of which the well-known *I. germanica* may perhaps be taken as the type [specimen shown]. Look at the broad swordlike, ensiform leaves, protected on the one side and on the other by a fairly thick cuticle. This tells us that the plant does not fear the sunlight, but can probably enjoy with profit the sun's directest rays. Look at these long, simple, scanty roots. Their simple, cord-like form and their fewness tell us that the plant used them to gather in ordinary nourishment, and not to suck up large and frequent draughts of water. And this thick underground stem or rhizome, in which a large store of elaborated food can be garnered, and in which a supply of water can be held, tell us the same tale. Obviously this plant is one which does not seek damp shady places, but loves the full light of the sun, which is accustomed to a not too generous soil, and which, thanks to its fleshy rhizome and sturdy leaves, is prepared to meet periods of not inconsiderable drought. Its characters suggest that it is at home on some sunlit rocky bank or hill-side, where its roots can run about in somewhat dry and not too fertile loam. And it is in some such spots in the south of Europe and elsewhere that we find it growing wild.

It may possibly strike some of my hearers as strange that I should talk of Irises at all as growing by preference in dry, sunny places, for it is a very common opinion that all Irises need a damp, even if not a shady situation. This opinion is the result of the wrong application of a most admirable principle, that of drawing general conclusions from the facts which come under our observation. The principle is admirable only so long as the facts are sufficiently numerous, it becomes faulty if the facts are too few. Now in England the facts as to the habits of wild Irises are very few indeed. We possess in this country only two wild Irises, *I. Pseudacorus* and *I. foetidissima*, and it so happens that the former does love damp, in fact really wet situations, growing best as it does by river sides, while the latter thrives in the shade. But these two Irises are quite exceptional in their habits. Of all the many species belonging to the genus Iris something like sixty per cent. love dry, sunny situations; indeed, for some of them, as I shall presently point out, no spot can be too sunny or too dry. And as to shade, my experience leads me to believe that *I. foetidissima* is the only one species in the whole genus which really does well in shady places; all the rest, including those that need water at their feet, enjoy and benefit by the fullest sunshine on their heads—indeed, for the most part pine away in the absence of it.

But to return. Compare with the *I. germanica* which I have just shown you another Iris of a different group [specimen shown]. You see that so far from possessing a conspicuous fleshy rhizome it has a wholly insignificant one, so small that you have to tear the plant to pieces before you can be sure that any at all is present. Look at this thick bush of matted branching roots running out in narrow filaments in every direction, and bringing the plant in touch with almost every point of the area of soil in which it grows. And note in company with these numerous fine roots the abundant but thin, narrow, flaccid leaves, so different from the broad stout swords of *I. germanica*. These facts tell us that this Iris is a water-loving plant, accustomed to a steady, ample supply of moisture diffused through the soil, whence the numerous tiny rootlets can pump it up to satisfy the thin grassy foliage. Without such a constant supply these thin leaves would soon flag, and the abundance of rootlets indicates that the water is not brought to it in flushing streams, but has to be extracted with labour out of the soil itself. The features of the plant suggest to us that its native home is in some rich meadow where the water, without becoming visible on the surface as a marsh, may be found in adequate abundance in the soil below. And the suggestion is a true one, for this is

I. sibirica, which, from its most favourite habitats, might fitly be called the "Meadow Iris." Indeed, *I. pratensis* is one of the names which has been given to it.

Here, again, is a third Iris belonging to still another group [specimen shown]. The abundant rootlets show that it too loves water; but the plant has a rhizome which, though not so fleshy as that of *I. germanica*, is still thick and considerable, and the leaves, though longer and narrower than those of *I. germanica*, are still stout and swordlike. May we not infer from these facts that this Iris, though it loves water, cannot secure a constant supply, that it lives on the banks of some stream or pool whence it can generally satisfy its thirst, but in seasons of drought, when the water sinks or even fails, when the river runs low or the swamp dries up, is helped by its stout leaves and bulky rhizome to hold on until water comes again. In doing so we shall not be far wrong, for this is our wild *I. pseudacorus*, which might fitly be called the swamp or river Iris.

These three Irises whose characters thus tell us, to a certain extent at all events, how to try and grow them, may be taken as representatives of three large and distinct groups of Irises. For the whole genus may be divided into several distinct groups, the members of which are more closely allied to each other than to members of the other groups. It will be impossible for me to-day to treat of all these groups, I must confine myself to a few only.

Let me take first of all the group to which the *I. germanica* which I have already shown, the well-known blue flag, belongs, and begin with a few words about *I. germanica* itself.

The distribution of *I. germanica* is exceedingly wide. We find it reaching from the west of Spain and Portugal right through southern and middle Europe to Asia Minor, and thence through Persia right away to Nepaul. I have not as yet obtained any evidence of its occurring wild any further east. Along all this wide range it varies very little. The form which grows in Nepaul bears a very large and handsome flower, and has been called *I. nepalensis*, but in all essential respects is identical with the European form. A similar large form is abundant, and appears to grow wild in Persia. Another large form of somewhat different colour is found in Asia Minor, and has recently been distributed for cultivation as *I. asiatica*, or more correctly *I. germanica* var. *asiatica*. I have received from Asia Minor also two other very distinct and handsome varieties, which I have called var. *Siwas* and var. *Amas*, since they were collected in the districts respectively called Siwas and Amasia. And in some of the forms growing wild in Italy both standards and falls, that is, both inner and outer perianth segments, instead of being of different tints of blue purple, are of more or less the same hue of red purple. One of these has been distributed as *I. Kochii* (Kerner), and is often sent out under the erroneous name of *I. sub-biflora*, and another has been called by Todaro *I. australis*. There are thus in existence many wild varieties; but these do not, in my judgment at least, differ from each other by specific characters; they are all varieties of the one species *I. germanica*. The plant is one which appears to be—and to have long been—a favourite of man. You will find it in the gardens of nearly all civilised nations along the temperate zone; it adorns the cottage of the English labourer and the walls of the Persian town. It has been brought to the English garden from abroad, but the French or Italian peasant has often transferred it from the mountain rock to his house-side. Conversely it has often escaped from the cultivated garden to the wild hill-side, and undoubtedly in its wide distribution along the temperate zone the hand of man has played no inconsiderable part. Along the range I have mentioned, from West Spain to Nepaul, it is, with local exceptions, the most widespread species of Iris. If in a ramble in South Europe you come upon a broad-leaved Iris growing wild on the hills, the chances are nearly ten to one that it will prove to be *I. germanica*. You will observe that I repeatedly say "hillside"; for it is on sunny slopes, where, between rocks, it finds an adequate patch of good, but not too rich loamy soil, where it has not to fight against trees and shrubs which smother its leaves and scape, or against rank grass, which robs its rhizomes of the kindly maturing, rot-preventing influences of the sun's rays, that it finds a fitting home.

But, as I said, *I. germanica*, with all its varieties (and I mean the true varieties, not the falsely so-called varieties, of which I shall speak presently) is only one member of a large group. Very closely allied is the handsome and fragrant *I. Biliottii* of Central Asia Minor, and the very closely allied, perhaps still more handsome and fragrant, *I. troyana* of Western Asia Minor. The typical white, broad-leaved Iris, *I. florentina* of Italy, which is really not white but faintly blue, and the more purely white *I. albicans*, which is found in Spain, but also grows in the Mediterranean islands and the West Coast of Asia Minor (and which has been distributed as a white *I. germanica*, as well as under fancy names such as "The Bride" and "Prince of Wales"), differ from *I. germanica*, besides the point of colour, in features, which, though of specific value, are not very striking. Rather farther removed, but still not very distant, is the white Iris of the East, which is a favourite ornament of Turkish cemeteries and Persian gardens, and which, in many cases at all events, is a variety of *I. kashmiriana*, the wild white Iris of Kashmir, though I am inclined to think from recent observations may be in some cases a new distinct species. Some of these Eastern white Irises are very apt to develop, under certain conditions, more or less purple colour, and this is especially the case with a very distinct, creamy-white variety of *I. kashmiriana* from Kandahar, which I described some few years ago as *I. Bartoni*.

Still farther removed from the typical *I. germanica* is the dark wild Iris of South Europe, known under the several names of *I. squalens*, *I. sambucina*, and *I. lurida*, all of which in my opinion ought to be considered as not more than varieties of one species, for which the older name of *sambucina* should be reserved. The name *sambucina* was given because the flowers of this species often possess the odour of the elder; but it is a mistake to regard this as a specific test, for in Irises, as in so many other plants, the possession of fragrance is most fitful; of two individuals, not only belonging to the same species, but also alike in all other outward respects, one may be exceedingly fragrant and the other possess no odour whatever.

Passing another step away from our type we come to *I. pallida*, the beautiful light blue Iris of Southern and South-eastern Europe. This Iris, which, by its denser inflorescence, the form of its perianth segments, and the characters of its capsule and seed, differs more distinctly from those which I have already mentioned than these do from each other, is very variable, not in the exact tints and markings of the flower, but in size and stature. An exceedingly large and handsome variety, growing wild in Dalmatia and Montenegro, is known as the variety *dalmatica*. On the other hand a very small dwarf form growing on Monte Cengialto, near Roveredo, in the South Tyrol, and hence known as *I. Cengialti*, is in all essential respects an *Iris pallida*, and cannot be distinguished from the type by any adequate specific characters. It possibly may be a natural hybrid, but in that case the features of the *pallida* parent wholly overshadow those of the other parent. And between the giant Dalmatian *pallida* and the dwarf *I. Cengialti pallida* may be placed a whole series running down almost without a break from the one to the other, and exhibiting much variety in the depth of the blue of the flowers as well as in their form and markings. All these must be considered as really coming within the species *pallida*. Some of these forms of *I. pallida* are deliciously fragrant, and hence Jacquin called a form of it *I. odoratissima*; but some have no odour at all, and the same batch of seed, gathered wild, has, in my hands, produced seedlings both exquisitely sweet, wholly inodorous, and having a distinctly unpleasant smell. Specifically different from, but closely allied to, *I. pallida* is the large and handsome *I. cypriana*, from Cyprus, and I have reason to think that Asia Minor contains still other species also closely allied to, but also sufficiently distinct from, the typical *pallida*.

Still another step brings us up to the bright yellow variegated Iris of Hungary and South-eastern Europe, *I. variegata*, which, in spite of its colour, is much more nearly allied to *I. pallida* than to *I. sambucina*.

All these various species, all belonging to the same general group, all need the same general treatment, all demand a bright sunny situation, with a fair, but not more than fair, supply of not too fertile loam. All hate to be shaded in summer or water-logged in winter, and show their dislike by first refusing to flower and ultimately taking themselves away. Some, of course, are more sensitive than others. *I. germanica* or *I. sambucina* will live or even thrive in a situation which will kill *I. pallida* outright; but they all do best where they are bathed in sunlight rather than by water.

Some of you perhaps are wondering why I say nothing of what are called sometimes German Irises, sometimes varieties of *I. germanica*, among which many very beautiful flowers are to be seen. It is rather unfortunate that these should be spoken of under the name of *I. germanica*, since, as far as I can judge, none of them are in any way varieties of *I. germanica*, or, indeed, have anything to do with *I. germanica* proper. The results of my own hybridisation and considerations based on the characters and habits of these "German Irises," have led me to the conclusion that they are all hybrids or sports of the three species—*I. pallida*, *I. sambucina*, *I. variegata*. The beautifully marked and sweetly fragrant *I. plicata* or *I. Swertii*, of which there are several varieties in the trade under fancy names such as "Madame Chereau," is, I am confident, a seedling of *I. sambucina* crossed with *I. pallida*; and *I. neglecta* and *I. amoena* are similarly of hybrid origin. The beautiful Iris known as "Queen of the May" is *I. pallida*, with the smallest possible infusion of the blood of *I. sambucina*. Out of one cross between a not quite pure *I. variegata*, that is to say, an *I. variegata* which contained some *sambucina* blood, I raised a large number of plants, among which I could recognise not only typical *neglecta*, but a very large number of the various types of the German Iris of our nurseries. But I shall have presently to return to the results of hybridisation. All these hybrid forms demand the same treatment as their parents.

I spoke just now of *I. Cengialti* as being a dwarf form of *I. pallida*. I possess an analogous dwarf form of *I. variegata* gathered on the Balkan Mountains. What is often called *I. subbiflora* is a somewhat dwarfed form of *I. germanica*; and I believe dwarf forms of *I. sambucina* also exist. But these dwarf forms, in spite of their small stature, retain all the essential features of the taller, more typical forms; they are stunted members of the *I. germanica* group. Let me now direct your attention to a group of Irises coming next to the *germanica* group, the members of which are never other than dwarf. Their foliage is small, and their scape, bearing a few flowers only—often three, or even two only—rarely exceeds a foot and a half in height. There are several Irises of this kind found in South Europe. One of them was called by Linnæus *biflora*, meaning in reality *bis florens*, twice flowering, because it is very apt to throw up a second late bloom in autumn; and it is convenient to speak of the whole group as the "*biflora*" group. As far as I can make out there are some three or four fairly distinct, that is, specifically distinct, Irises belonging to this group; one, which when it bears deep-coloured flowers always seems to me very handsome, was called by Lamarck *I. nudicaulis*, because the scape is not, as in so many other Irises, clothed and indeed hidden with clasping leaves, but seems to rise as a "naked" stem straight up from the rhizome. This plant, which varies in its tint of purple, has also been called *I. bohemica*. It grows in South-eastern Europe, and I cannot as yet distinguish from it any separate *I. hungarica*. One special feature of the plant is that it loses its leaves early and entirely, so that for the greater part of the winter the rhizome is hidden under ground, or shows only quite dormant buds. In Italy there is found an allied form, differing from the above in having the scape more or less clothed with leaves at the base, as well as in other features; and it is this which I usually find labelled "nudicaulis" in collections. In Portugal occurs still another form, with larger and fewer flowers than the above, sometimes bearing only one or two, the *I. sub-biflora* of Britero. The character of flowering a second time in autumn is one on which no great stress ought to be laid; whether it occurs or not depends a good deal on the season, and is much more special to particular plants than a constant feature of any one form. Some of the dwarf forms of *I. pallida*, more or less allied to *Cengialti*, frequently flower again in the autumn, as, indeed, do other kinds of Iris also.

This group of *I. biflora* passes almost insensibly through the yellow *I. lutescens*, the whitish *I. virescens*, to *I. italica* and *I. olbiensis*, and so to *I. pseudo-pumila*, *I. chamaeiris*, and *I. pumila*. Of these, the rarest in our gardens, and apparently not very common in a wild state in Europe, is what I may call the true *I. pumila*, characterised by a single flower, with a very long tube, three, four, or five times as long as the ovary, borne on a scape which is so short that it is never visible above the leaves. In *I. Chamaeiris*, which is an inhabitant of the South of France, the tube is much shorter, the scape is often visible, and the plant goes to seed much more freely than does the true *pumila*. Most of the plants which I find in collections labelled "pumila" are either forms of *Chamaeiris* or hybrids, or belong to some division other than *pumila* of this dwarf group. I must not stop now to discuss the characters of the several members of this group, but I may say this much—As you pass from the South of

France through Italy towards the East, you may gather wild a number of Irises, which, when you look at them individually, appear quite different from each other, and yet are so allied to each other, and pass so gradually from one set of features to another, that it becomes most difficult, if not impossible, to arrange them satisfactorily under any list of acknowledged names—under, for instance, the list given by Mr. Baker, who, as you all know, has done so much to extend and correct our knowledge of Irises. Many of these wild forms have been introduced into our collections. They have been cultivated in our gardens for two or three centuries; there they have seeded, and, indeed, have been propagated by seed. In seeding they have sported, and, moreover, bear obvious signs of having undergone hybridisation. The result is, that when you come to a large collection like that of Mr. Barr, or Mr. Ware, or Mr. Backhouse, or others of our nurserymen who cultivate this genus, you find an immense number of obviously distinct forms belonging to this group alone, of which I am now speaking, that is to say, forms so distinct, that the nurseryman must have a name by which he may sell them in such a way that the purchaser knows what he is buying, and yet you cannot—that is to say, I cannot—name them all according to received and acknowledged names. I am doing my best to form some idea of how they ought to be called, and how they ought to be arranged, and do not despair of eventually "getting them in shape." But much has yet to be done. The first step is to be quite sure as to which are the actual wild forms; and I may here take this opportunity of reminding such of my readers as are fond of travelling abroad, that they can much assist my labours, and afford me much gratification, if, when in their walks or drives abroad, they come upon any Iris undoubtedly growing wild, that is in situations in which it is unlikely that it can have escaped from a garden, they would kindly not dig up the whole plant (for I quite share the views of those who think that many beautiful wild plants have quite difficulties enough to struggle against, without feeling the blow of man's hand), but just to break off a piece of the rhizome with a few roots upon it, to wrap the piece up *dry* in a piece of brown paper, with a label stating the exact habitat, and to drop it in the nearest post office, addressed to me at Shelford, Cambs.

Allow me here, just for a moment, to turn aside to say a few words about hybridisation among Irises. There can be no doubt that Irises hybridise with tolerable readiness. I have already referred to the so-called German Irises being, to a large extent, of hybrid origin, and I have raised several hybrids myself. Here is one [specimen shown] between two Irises, quite a long way apart, *I. Chamaeiris* and the species *I. iberica*, about which I shall shortly say a word. Not only have I the whole history of the crossing, but the plant itself betrays its origin by its features. I have also raised a number of hybrids, some not without beauty, by crossing *I. balkana* with *I. Cengialti*; these I described some few years back in the *Gardeners' Chronicle.* And I have many other hybrids in various stages, some of which I hope may prove not unwelcome additions to our gardens. Besides the "German Irises" of which I just now spoke, several other plants in our collections are clearly of hybrid origin. There is, for instance, one very sturdy free-flowering fragrant dwarf Iris, which would be really beautiful if it were not so blotchy in colour, called sometimes "*I. biflora gracilis*," and sometimes "*I. pumila gracilis*." This is, I am sure, a hybrid between *I. virescens* and *I. nudicaulis*; it bears on itself the marks of *I. virescens*, and I have raised from the seed of it nearly typical *I. nudicaulis.* Irises, then, do hybridise, and that pretty freely, especially, perhaps, in the group of which I am speaking now, and it is more than probable that some of the wild forms, as certainly many of the cultivated forms, are of hybrid origin, and if so, ought to bear corresponding names.

Returning now to the group of dwarf Irises on which I have dwelt so long, let me end my story about them by saying that whatever their names, and whether we can name them satisfactorily or no, the principles which I laid down at the beginning of my talk may be applied directly to them. Everything about them tells us that like the *germanica* group, and much more so than that group, these dwarf Irises, whether of the *biflora* group or the still dwarfer forms, need a somewhat scanty, not too rich soil, and a full exposure to all the sunshine which they can ever get in this country. They show individual proclivities of course. The large-flowered rich purple, or yellow, or whitish dwarf Iris, growing near Hyères, and known as *I. olbiensis*, profits more by a damp soil, or rather perhaps subsoil, than the others. But taking the group as a whole, if you wish them to flourish, be happy, and flower, let your first care be to choose for them a site in which they shall feel as little as possible the winter rains of our so often weeping England. Plant them upon a bank on which in winter the sun's rays will if possible fall during all those few hours in which we then see his face, and do not be afraid if, in the glare of some unusually summerlike summer, they appear to wither and to faint. Withering in winter often means rot and decay, but withering in full summer for these Irises with thick fleshy rhizomes means *reculer pour mieux sauter*: the goodness of the leaves shrinks back into the rhizome to appear in the coming spring in the purple and gold of the flower.

I have spoken so far chiefly of the Irises of Europe. Some of them, as I have said, are also found in Asia, and the Asian specimens, in many instances, differ but slightly or not at all from the European ones. There grows in the Caucasus an *I. pumila* identical with the European *pumila*, the Asian *I. germanica* is distinguished by slight tokens only from the European *I. germanica*, and I can see no difference whatever between *I. albicans* from Smyrna and that from Spain. Moreover, there are Irises special to Central Asia not found in Europe, which nevertheless present all the characteristics of the European group of *I. germanica*. I have already mentioned *I. Biliottii* and *I. kashmiriana*; to these I may add *I. Alberti*, which betrays its Asian nature in its strange colour, but not to any great extent otherwise. In the hot arid regions of Asia is, however, found a very special and very remarkable group of Irises called the *Oncocyclus* group, because the perianth segments, both the standards and the falls, are very often round and curved, possessing a spherical curvature like that of a shield. Of this group, which stretches from Palestine and the Egyptian desert through Asia Minor and Persia to Afghanistan, where it fades away, the large and striking form called *I. susiana* is probably well known to you all. This, which has been cultivated in our gardens for centuries, Parkinson describing it as the great Turkey, or Chalcedonian, or Guinea Hen Floure de Luce (the reason of the first name being that the plant was introduced into Europe from Constantinople, and of the second the peculiar colouring of the flower), derives its name from the old province of Susis on the western borders of Persia, where it is said to grow wild. I have never as yet received any wild plant, and I am not aware of any collected specimens having been introduced into Europe for many years past. All the plants of this species in our gardens appear to be descendants of individuals long cultivated in Europe. Even more beautiful and striking than *I. susiana* is the somewhat smaller *I. iberica*, so called from its dwelling in Iberia, not of Spain but of the Caucasus. We are now acquainted with several other members of this group, *I. paradoxa*, *I. acutiloba*, *I. sari*, *I. Heylandiana*, *I. Helenae*, *I. lupina*, *I. atropurpurea*, *I. Barnumae*, and others; but the finest and grandest is the new *I. Gatesii*, introduced by my friend Mr. Max Leichlin, from the mountains of Armenia, and named after my friend the Rev. F. S. Gates, of the American Mission at Mardin, who has been most indefatigable in assisting endeavours to secure the floral treasures of that remarkable district. If you imagine a flower, often very much larger than that even of *I. susiana*, of a delicate light gray hue, resulting from minute dots and delicate veins of rich purple on a creamy white ground, or at times of a pure light sky blue, marked with deeper veins, and at the same time of peculiar grace in form, you will readily conceive that a striking addition has been made to the beauty of our gardens.

Very closely allied to the *Oncocyclus* group is a group of bearded Irises, which, since they form a very distinct family by themselves, and since we owe our knowledge of them very largely to the exertions of the venerable Director of the Botanic Gardens at St. Petersburg, I have proposed to call the *Regelia* group. These are bearded Irises, the scape generally bearing two or sometimes three flowers; but they are in all respects very different from the European *biflora* group. Some of them, such as *I. korolkowi*, possess singular beauty, and all of them are striking, though some of them, such as *I. suwarowi*, cannot be expected to become florists' favourites.

These Irises of the *Regelia* group have their home in Central Asia, in Turkestan, and in Bokhara, and, like the members of the *Oncocyclus* group, are found for the most part on hot hill-sides, pushing their long cord-like scanty roots a long way into the arid, gritty, or sometimes sandy soil on which they grow. In winter the cold of the air above them is far below that of an ordinary English winter; but they feel it not, for they are then peacefully at rest and dormant, covered and protected by a warm white shawl of snow, which shields them against both the cold of night and the alluring heat of a bright winter's sun. When the snow melts in spring they suddenly awake to a hurried life, made almost furious as the quickly-increasing heat of the mounting sun, working in the laboratories of their fresh young leaves, turns into wine the water which they readily draw from the stores supplied by the melting snows. Unfolding their always striking and often gorgeous flowers, they hold them up aloft to be seen by the equally strange insects which are flitting about beneath the same strong sun. Such a bright life must needs be brief. The water is soon gone, the leaves grow flabby, wither, and die, and long before the summer sun has run his course, the plant, exhausted with its dance of spring, has sunk into a summer slumber, from which it peacefully passes into its winter's sleep.

If, as I said at the beginning of my remarks, it ought to be the gardener's care to imitate, as far as lies in his power, the conditions under which the plant which he wishes to grow lives in its native home, is it to be wondered that the Irises of this group are the despair of the English gardener? How can we imitate conditions such as I have just sketched in a country like our own, where the rain comes down in torrents in mid-winter and at harvest time, but needs praying for in spring, where the days in winter are often summer-like, and the days in summer are made dreary by winter-like skies and chilled by wintry blasts, and where the best that can be said of the weather is that it can never disappoint us because we never know what to expect? Indeed, we cannot look for more than a moderate success in attempting to cultivate Irises belonging to these two groups. There are, it is true, more things in the plant and in the soil than are dreamt of in the latest philosophy of our newest botany, and in some happy gardens these Irises will, I know, not only grow, but flourish and smile with content under conditions which must be wholly different from those obtaining in their native home, but which, for some reasons as yet hidden from us, are suited to the plants. Such conditions are not to be found in my own poor garden, and I can only secure success, and that a very limited one, by a clumsy imitation of a Central Asia climate. The principle of this I learnt from the Gardening

Magician of Baden Baden. As soon as these Irises have done flowering, in early June or late May, I place over them lights raised some two feet or so from the ground, and open on all sides to secure free circulation of air. The glass above the plants keeps the rain from them and intensifies the feeble heat of an English sun, and thus I try to coax my plants into believing they are at home. As soon as the plants show sign of starting again, in early August for instance, I take off the lights, otherwise they, tired of their summer sleep and beginning to bestir themselves, would soon be stimulated to untimely growth. During winter I leave them alone, doing nothing to them, save perhaps occasionally, by means of the lights, warding off the rains of October and November, which, coming often on warm muggy days, excite an undesirable activity; for any winter effort which I may make is directed to retard rather than to forward growth. I need hardly say that I choose a situation from which in winter the water may run away as fast as possible, and upon which in spring and summer every scanty ray of a sickly sun may shine. When I do this, I succeed, not, however, without many failures, in gaining not only blooms, but a fair supply of well-ripened seed. If I do not do this, the plants, without exception, wave a feeble hand and bid me good-bye. Let me add that when I do succeed I cannot help thinking that my labour has not been in vain.

These Irises of the *Oncocyclus* and *Regelia* are, as I have said, special to Asia Minor and to Central Asia; but they straggle away both eastward and westward. Towards the west we have some interesting forms, which show a transition between the Asian and European types. On the shores of the Bosphorus grows a tiny dwarf Iris, only a few inches high, with small dull coloured, almost sessile, flowers, known as *I. rubro-marginata*, because some of the leaves have a red margin; but this feature is by no means constant, and when present in the young leaves often disappears as these grow older. The leaves which form the little tufts are like those of the *Oncocyclus* group, very distinctly falcate, or scimitar shaped, and in this, as in several other respects, the species betrays its affinities to the *Oncocyclus* group, though undoubtedly its nearest ally is *I. pumila*. Then again, on the hills near Philippopolis grows a dwarf Iris, *I. mellitta*, which is very closely allied to *I. rubro-marginata*, and, like it, is intermediate between Asian and truly European forms. From *I. melitta* we pass readily to the dwarf Iris of the Balkans, *I. balkana*, with its relatively large fine red purple flowers, which differs very slightly from the ordinary European *I. Chamaeiris* or *I. italica*. North-west of the Balkans, in Hungary, we find the bright yellow little *I. arenaria*, which is in all essential features at least identical with *I. flavissima* of Central Asia, and thus with the also bright yellow coloured *I. Bloudovii*, which latter is an outlying member of the *Regelia* group. I said a little while back that an *I. pumila* identical with the European forms grows in the Caucasus, but the more common form of *I. pumila* in that region is *I. pumila aequiloba*, with its small elegant and deeply-veined flowers of purple, yellow, or white; and this variety of pumila, as do also other varieties of the same species scattered over Asia Minor, tends in its characters towards the Central Asian type. All these particular forms may, in fact, be regarded either as Central Asian forms trying to accommodate themselves to European conditions, or as European forms doing their best to thrive in the to them strange climate of Asia. Some of these forms, for instance *I. arenaria*, need exactly the same treatment as the Asian forms; and while others will live and even thrive without special treatment, they all by their more abundant flowering and more luxuriant growth show that they appreciate a dry winter and a hot summer whenever they chance to meet with such rare events in this country.

Turning our steps eastwards from Central Asia, we find that the Central Asian Irises straggle in this direction, also towards China and Japan, and in their wanderings show their affinity with a very remarkable group of Irises, whose central home is in those far countries of the East. Of this group, which has received the name of *Evansia*, the best known member is, perhaps, *I. fimbriata*, which, though not thoroughly hardy in most parts of this country, rewards the trouble of culture in a cool greenhouse by its abundantly produced delicately marked lavender flowers. More characteristic of the group, perhaps, is the large-flowered handsome *I. tectorum*, so called from the habit of the Chinese to cultivate it on their house-tops. The centre of this group lies, as I have said, in China and Japan, but it stretches both east and west. Like many other Japanese plants it ages ago found its way into the New World, but was nearly driven out again by the glacial descent from the North, and now is only represented by such starved and altered forms as the *I. cristata* and *I. verna* of the Eastern coast, and the strange little *I. lacustris* of the shores of Lake Huron. In its westward progress it has been more happy. *I. Milesii*, from the Kulu valley, is singularly intermediate between *I. tectorum* and *I. fimbriata*, though its home is far away from that of both of them. *I. Kingiana* and *I. Duthieii*, for our acquaintance with which we are indebted to Mr. Duthie, are also members of this group, as is also an Iris from Lahul, which I have ventured to name after Sir J. Hooker, since the Canadian Iris which has been called after him does not, in my opinion, want a specific name. And in all probability many Irises exist in West China, and to the north of the Himalayas, belonging to this group. Now, without going into particulars, I may say that this group *Evansia*, especially in the case of *I. Kingiana* and the other members of the group stretching eastward, exhibits many affinities with the *Oncocyclus* and *Regelia* group. Thus, the great striking Central Asia group joins hands with the European forms on the west, and with the Japanese-Himalayan group on the east. I may add that the *Evansia* group shows its affinity with the *Oncocyclus* group in its cultural requirements. Though *I. fimbriata* is practically an evergreen Iris, and the American representatives have long ago accommodated themselves to an American climate, the other members of the group, and especially the western members, but no less *I. tectorum*, in order that they may bloom freely, seem to need a period of rest. But that period my experience leads me to place later in the year than suits the *Oncocyclus* Irises. I let *I. tectorum* and *Kingiana* grow freely in the early summer, and do not dry off until autumn.

And now, Mr. Chairman, it is, I think, time that I came to an end. I have touched only on a few Irises. The groups of which I have spoken contain, perhaps, the most beautiful forms in the genus, but there are several other groups, some of the members of which are exceedingly handsome, notably the cultivated Japanese Iris known as *I. Kaempferi*. These groups differ in their features in many ways from those on which I have dwelt, and many lessons may be learnt from them of quite another kind from those upon which I have insisted to-day;

indeed, the forms which I have brought before you have many a tale to tell, besides the one on which I have built my lecture. But I trust that, as a gardener speaking to gardeners, I have not done wrong in putting so prominently forward what I take to be a golden precept of gardening, namely, to study the nature and habits of a plant in order that we may foretell its wants and so do our best to meet them.

DISCUSSION.

Mr. BAKER alluded to the great increase in the number of known species, and to the extension of our knowlege of the older ones, which had resulted from the exertions of Professor Foster, whose labours as a cultivator, a systematist, and a physiologist were highly appreciated by his fellow-horticulturists.

Dr. MASTERS adverted to the lessons to be learnt by the cultivator from the investigation, not only of the outward conformation, but also of the microscopical structure of the leaf and other parts. The circumstance that the common German Iris thrives so well in London gardens was readily explained by the direction and peculiar structure of its leaves.

The discussion was continued by Sir CHARLES STRICKLAND, Mr. C. B. CLARKE, and the Chairman, Mr. W. T. THISELTON DYER, C.M.G., Director of the Royal Gardens, Kew.

Professor FOSTER, in replying, said that he could not, either from the gardening or from the botanical point of view, feel content with the decision that the various forms of Iris cannot be separated from each other and appropriately named. The task, he knew, was a very difficult one, and he himself was that moment at that stage of a progress known as the Slough of Despond ; but he meant to struggle towards the other side of the slough, and he hoped that some day he should emerge. In conclusion, while thanking his audience for their kind attentiveness, he desired to express publicly how much he had been indebted for rare and new Irises to various missionaries, more especially to the members of the American mission in Asia Minor, and he should only be too glad to be at any time the channel for conveying to them help in the good work which they were carrying on.

THE STRAWBERRY.

By Mr. A. F. Barron, Superintendent of the Society's Gardens at Chiswick.

[Read June 25, 1889.]

Amongst our hardy English fruits there is none held in higher repute than the strawberry. It is an almost universal favourite, and being the first fruit of the year that ripens in our gardens, receives on that account the first and a very large share of attention and regard. What is more beautiful or more tempting than a dish of fresh-gathered strawberries, both the eye and the palate being appealed to?

The strawberry ranks as one of our native fruits, the wild form being found growing plentifully in our woods and hedgerows, in many parts of the country, and pretty generally in all the temperate regions of Europe and America.

As a cultivated plant, it is one of the oldest on record—so far back as the reign of Richard III. (1483) excellent strawberries are reported as growing in the Bishop of Ely's garden in Holborn, and Hyll (1593) tells us that "strawberries be much eaten at all men's tables, and that they will grow in gardens to the bigness of a mullberry." In Gerard's Herbal, of about the same date, the first mention is made of white strawberries.

Although strawberries were known to the Romans in the time of Pliny, they do not appear to have been cultivated by them at all, or to have been of any repute—the climate of Italy, excepting on the higher lands, being probably too hot to grow them to perfection.

Botanically, the strawberry belongs to the genus *Fragaria*, of which there are a good many species—the common wild wood-strawberry being *Fragaria vesca* and probably the only one cultivated in Europe until near the end of the last century, when *Fragaria virginiana* was introduced from America.

As regards the origin of the varieties now under cultivation, some botanists ascribe all to *Fragaria vesca*, and look upon it as the original form. I am not able to adopt that altogether. I am hardly prepared to admit that the magnificent fruits we now possess have been derived from the wild form of the woods. They seem to me so utterly and entirely distinct.

The first attempt at a general classification and description of strawberries that I know of was made by the Horticultural Society in the gardens at Chiswick, the report being furnished by Mr. Barnet, the superintendent, and published in the Society's Transactions in 1822. Four hundred samples were received and grown in the gardens, bearing over two hundred names, which Mr. Barnet, in his report, reduced to fifty-four presumably distinct varieties, and arranged them in seven classes. Scarcely any of these varieties are now in cultivation, and the classification is not approved. The simplest classification that I know of is one of natural grouping, adopted by M. H. de Vilmorin in "Les Plantes Potagères," viz. :—

1. *F. vesca* . . .	The wood strawberry.
2. *F. alpina* . . .	The alpine strawberry.
3. *F. elatior* . . .	The Hautbois.
4. *F. virginiana*. .	The scarlet strawberry.
5. *F. chiloensis* . .	The Chili strawberry.
6. *F. grandiflora* .	The Pine or Carolina.

From these six original species, as I take them to be, the whole of our present race of strawberries have been derived in one way or other. Their mingled parentage, however, renders classification of any sort extremely difficult.

The first, the common Wood strawberry, is too well known to require any description. The fruits are small and comparatively insignificant, and I do not know of any improved form.

The second, the Alpine strawberry, to a great extent resembles the common wood variety, only the fruits are larger and more elongated in form, and the plant has the distinguishing merit of bearing successionally during the season, so that the crop secured from a few well-cultivated plants is very great. Hence, in France, where it is cultivated to a far greater extent than in this country, it is termed "Fraisier de tous les mois, "F. des quatre saisons," &c. Visitors to the Exhibition in Paris this season may note the enormous supply at the various restaurants; with a little sugar and a dash of "vin ordinaire" they are not to be despised. The alpine strawberry is stated to have been found on Mont Cenis, and introduced to France in 1764, but it is also said to have been introduced into England by the Dutch, and grown about London several years previously, and from thence sent to the French King's gardens at Trianon.

The third is the Hautbois, a variety at one time well known and very generally cultivated. This strawberry is surely going out of cultivation, which seems a pity, for no other possesses anything approaching the same peculiar rich flavour, a sort of mixture between the black currant and raspberry. The berries are larger than either of the preceding sorts, but it is a notoriously bad bearer, many of the plants producing no flower or the flowers proving abortive, hence many believed it to be dioecious. A great deal has been written on this subject, which I need not allude to here.

The Hautbois is the same as the Fraise Capron of France. It is stated to be a native of Germany. Parkinson, writing in 1627, calls it the Bohemia strawberry, and says: "It hath been with us but of late days." The name Hautbois, or Hautboy, is said to be a corruption of the German "Haarbeere."

No great improvement that I am aware of has been made on the original. The variety named Belle Bordelaise may be rather more prolific, and we have a variety at Chiswick which was sent to the Society some years ago by Dr. Bennett, of Aberdeen, which is a cross between the Hautbois and *F. lucida*, from which something may be obtained. The flavour of this cross is remarkably rich. Hybridisers should really turn their attention to the Hautbois.

The fourth is the Scarlet strawberry, known also as the Old Scarlet and the Bath Scarlet. It is a native of Canada and the Eastern States of North America, and was introduced into this country in 1629. This being the first strawberry of decided merit, was very soon largely cultivated, and from it the varieties Grove End Scarlet, the Roseberry, Black Prince (and probably Vicomtesse Héricart de Thury), were no doubt raised. Around Edinburgh, until very lately, a great extent of this strawberry was grown chiefly for preserving purposes.

The fifth is the Chili strawberry, which was introduced by Frezier into France in 1712, and described by him as "having fruit the size of a walnut." Fifteen years later, in 1727, we read of Miller growing it in his garden at Eltham. There seem to have been two varieties, however; the one we have grown at Chiswick is of gross growth, a poor cropper, with large pale fruit of poor quality. Mr. Robert Thompson was of opinion that the pale colour of the British Queen class was derived from the Chili.

The sixth is the Pine or Old Carolina strawberry, the origin of which is rather obscure; and here again there appear to have been two varieties—one introduced into France about the middle of the last century and described by Poiteau; the other introduced into England from Holland, which seems to have become the parent of the greater part of our largest and best English strawberries.

Thus we dispose of the original species, and now come to consider the strawberries as they are at the present time, and as they appear before us to-day.

These M. Vilmorin places in one great group of Hybrid strawberries, numbering many hundreds, if not thousands. I shall not attempt to classify them, and I am free to confess I hardly know how—they seem to be so hopelessly intermingled the one with the other, and changes still go on.

Although no direct record is to be had of the progress made in the raising of new varieties and the gradual improvement of this fruit, we are face to face with the fact that during the present century every variety now cultivated has been introduced to our notice; and if we care to look back 250 years, we shall find ourselves reduced to this—the common Wood strawberry. No better evidence than this is required. Slowly but surely has the improvement been going on. All honour to those patient workers and keen observers who have done so much, and to whom we are indebted for all these beautiful fruits we now enjoy.

It is extremely interesting to note, amidst the gradual development taking place, the occasional advent of some standard variety, which stands out clear and bold like a finger-post pointing the way onwards.

There are, to my mind, eight of these leading sorts which are deserving of special record:—

1. *Keens' Seedling.*—Raised by Mr. Keens, market gardener, Isleworth, 1821. This variety, when exhibited before the Horticultural Society in 1821, created quite a sensation, so greatly was it then in advance of all others.

2. *British Queen.*—Raised by Mr. Myatt, market gardener, Deptford, about 1840. The grandest strawberry ever introduced.

3. *Vicomtesse Héricart de Thury.*—Raised by M. Jamin, of Bourg La Reine, Paris, and introduced into this country about 1850. A favourite early variety.

4. *Elton Pine.*—Raised by Mr. T. A. Knight, a former President of the Horticultural Society. An excellent late sort.

5. *Sir Joseph Paxton.*—Raised by Mr. Bradley, of Southwell, Notts. The leading London market strawberry.

6. *President.*—Raised by Mr. Green, of High Cross, Ware. Large and excellent.

7. *Sir Charles Napier.* Raised by Mr. Smith, market gardener, Twickenham. A favourite market sort.

8. *Noble.*—Raised by Mr. Laxton, of Bedford, and certificated by the Royal Horticultural Society in 1887. The earliest strawberry, and withal one of the noblest ever introduced.

SELECTION OF VARIETIES FOR GENERAL CULTURE.

The number of excellent varieties now in cultivation is so great that it is next to impossible to make a selection that will meet with general acceptance.

Certain sorts succeed in certain soils and in certain localities. The variety that finds favour on light land is not so well adapted for heavy clay, &c., and with some growers quantity is greatly preferred to quality; others will insist on size and appearance, as if the fruit was to be looked at, instead of to be eaten.

To those who can afford it, I certainly think that flavour or quality should be the first test of merit; still many highly flavoured sorts are such notoriously bad croppers, &c., and so wanting in constitution, that they cannot be recommended.

After considerable experience and a passing acquaintance with nearly every strawberry sent out during the last thirty years, the following would be my first selection of twelve varieties:—

1. *Noble* (Laxton).—Fruit very large, roundish, of fine deep red colour, moderate quality, good sturdy constitution, and great cropper. Ripens very early, about a week in advance of Keens' Seedling. A variety of great and decided merit.

2. *King of the Earlies* (Laxton).—Fruit rather small, fine colour, and excellent quality. Fine constitution, and great cropper. First early.

3. *Vicomtesse Héricart de Thury.*—One of the best constitutioned strawberries that I know of; will stand more bad treatment than any other sort. The fruit ripens early, and, although not large, are all so bright and clear, and of fairly good quality, that it is a general favourite. It is also an extraordinary cropper.

4. *President.*—A very good main-crop variety. The fruit large, of good appearance, and fine quality. A great cropper.

5. *Sir Joseph Paxton.*—Fruit large, deep shining red, extremely handsome, moderate quality. Largely grown in Kent for the London market. Does not succeed so well at Chiswick.

6. *Sir Charles Napier.*—Fruit large, pale shining red, very handsome, and of a fine brisk acid flavour. A very heavy cropper. Much grown in Middlesex for the London market. Succeeds well at Chiswick.

7. *Countess.*—One of many excellent varieties raised by Dr. Roden, of Kidderminster. Plant of fine constitution, and a great cropper. Fruit flat, cockscombed, frequently split at the apex. Very handsome, and of good quality.

8. *Lucas.*—A Belgian variety sent out by De Jonghe, Brussels. Plant of strong, vigorous growth, and a great cropper. Fruit large, bright red, and of a fine brisk acid flavour. Mid-season.

9. *British Queen.*—The finest strawberry in cultivation, without a doubt. Fruit large, broad, cockscombed, pale red, the apex frequently very pale, and not ripened. Requires high cultivation, but when well grown crops abundantly.

10. *Dr. Hogg.*—This is one of Mr. Bradley's seedlings, and may be termed a hardier and more vigorous variety of British Queen, succeeding where that variety does not.

11. *Waterloo.*—This seems to be identical with a French variety known as M. Fournier. It is remarkable for its extraordinary size and dark purple colour, very distinct and attractive. Quality second-rate, a moderate cropper. Rather late.

12. *Elton Pine.*—A remarkably fine late variety, of a fine deep red colour and extremely pleasant brisk acid flavour. A moderate cropper.

A second selection of twelve varieties would include the following, which are all good, although not equal, in my opinion, to those in the first list:—

1. *Black Prince.*
2. *Pauline.*
3. *Keens' Seedling.*
4. *Sir Harry.*
5. *La Grosse Sucrée.*
6. *Mr. Radclyffe.*
7. *Souvenir de Kieff.*
8. *Oscar.*
9. *James Veitch.*
10. *A. F. Barron.*
11. *Eleanor.*
12. *Frogmore Late Pine.*

A Selection of Varieties for Special Purposes.

1. *Flavour or Quality.*—Myatt's Pine Apple; Myatt's Eliza; British Queen.
2. *For General Crop.*—Vicomtesse Héricart de Thury; Sir Charles Napier; Sir Joseph Paxton.
3. *For Size and Appearance.*—Waterloo; Sir J. Paxton; James Veitch.
4. *For Early Supply.*—Noble; King of the Earlies; Vicomtesse Héricart de Thury. The earliest variety proved at Chiswick this season was Crescent Seedling.
5. *For Late Supply.*—Elton Pine; Frogmore Late Pine; Eleanor.
6. *For Pot Culture.*—Keens' Seedling; Sir Charles Napier; La Grosse Sucrée.
7. *For Preserving.*—Vicomtesse Héricart de Thury; Elton Pine; Old Scarlet.

THE MARKET CULTURE OF STRAWBERRIES.

By Mr. George Bunyard, F.R.H.S., Maidstone.

[Read June 25, 1889.]

My friend Mr. Barron has given you a full and complete history, and named the best in all the families of garden strawberries. I have therefore only to deal with their culture on a large scale, for marketing or for the manufacture of jam. In order to make the paper as interesting as possible, I have taken counsel with friends in distant centres of cultivation, and I embrace the first public opportunity of thanking them for their kind replies. The strawberry is a very perishable fruit, and in even the few hours that elapse before it is put on the market, its freshness and piquancy of taste and bright appearance have more or less departed, in consequence of the packing and jolting in transit. This is unavoidable; and although many growers send the fruit direct in their own vans, still it has the effect of reducing the selection of kinds that will travel to a few varieties, and at the same time of excluding some of the best in flavour from market culture, as appearance is a great factor from a paying point of view. I have visited the plantations in bearing, and can state from experience that the fruit grown in the open is far superior to any that is produced in closed-in gardens, obviously because the sun from its earliest morning awakening to the latest of its western rays is full on the plants the whole day. These conditions cannot be expected in walled gardens, or in places surrounded by trees. The full play of the warm winds also tends to ripen and flavour the fruit more than is generally expected. To proceed, the largest district for strawberries is probably that near St. Mary Cray and Swanley, in Kent, where the culture assumes enormous proportions. I note in the visit of the Lord Mayor to the district lately, that one grower is said to have as many as 2,000 acres, and that, besides 300 tons of fresh fruit sent to Liverpool, he made 60 tons of jam per week. (*Gardeners' Chronicle.*)

There are others who do an equally extensive trade, and the reason for this is probably because in that part there was formerly much poor woodland, which the tenants were allowed to grub and bring into fruit at a nominal rent, which would be eminently suitable for the purpose, as deep steam cultivation and upheaval of the roots, &c., would form a good cultural basis, combined with the humus of the soil, upon which to start; the cheapness of London manure, and the ready means of getting it by rail, have also aided the culture, and of course the same rails (S.E.R., Orpington, and L.C. & D., Swanley) could take the fruit to market, while the distance from Covent Garden, the Borough, and other centres of distribution, was not too great to allow of road carriage, though many prefer to send their own vans ready loaded to the local station, and send them on the rail, transferring them with their own horses from the terminus direct to the centres of distribution. The soil of the "Cray" district is eminently suitable for fruit culture, being light, and more or less mixed with stones and flints; but the main secret of success is the heavy manuring given to the land with every crop, and the intelligent culture bestowed. Sir Joseph Paxton is the favourite sort, and it possesses all the requisite qualities for the purpose, being a handsome glossy fruit of good firm substance, a great bearer, and a hardy free grower, with good foliage and strong footstalks to keep the fruit off the ground. Stirling Castle is also grown, and Eleanor and Elton Pine for later crops. The usual proceeding is to put the finest and best fruit into 1 lb. punnets, and later on, when the price is lower, to gather into peck baskets, which are made with a neck slightly smaller than the body, so that they do not require covering when sent by rail, but pack one on another, and the fruit can be thus sent in special trains to Manchester, Liverpool, Birmingham, &c., in better condition than would be expected. The punnets are put into baskets made to hold a certain number, or into light boxes with handles at each end.

The plants are set in the fields in straight rows, 32 inches wide, the plants being 16 inches apart; such a plantation lasts from four to seven years in full bearing, according to the soil or the seasons. The hot weather of 1886 and 1887, by encouraging red spider, would considerably weaken the plants, and make gaps in the rows, and severe frosts after a wet time will sometimes kill them. My informant states that the largest day's picking at Cray was about 6,000 pecks, say of 12 lbs. each. The picking lasts from four to six weeks, the pickers being paid by tally for each peck picked, to be turned into cash as they require it. They are generally lodged on the farm in covered lodges erected for the purpose. A marked improvement in the care for their welfare has been manifested in late years, and although their condition is a happy one in fine weather compared with their life in towns, it must be very trying in wet seasons, as they have to be out by three o'clock in the morning to get the first supplies for the early trains. They are, however, generally cheerful and willing; the fact that each one can earn a fair wage by diligence and activity stimulates them to work with a will. New beds are planted in the end of September, but if weather then prevents, planting is best deferred till March, as the winter frosts draw them out of the ground if not established. As soon as the crop is gathered the runners are cut off with a bagging hook; the land is then broken between the rows with a horse hoe and cleared from weeds; the straw used in mulching is also removed. They are then moulded up with a plough on each side to keep the crowns warm and dry in mid-winter; any excess of rain draining off in the furrows. Mulching is done about the first week in June, clean barley straw being used at the rate of about 1½ tons per acre. Any manure necessary would be put on when the runners are removed, to stimulate the growth of stout crowns. Digging is objected to.

This is the Kent plan. At Sandwich (Kent) the finest

British Queens are grown, and the culture there differs in wider planting, possibly because of deeper soil, while four years are considered long enough to keep a crop on the same land. The first year's plants have the runners picked off by hand, and in all cases the land is kept scrupulously clean from weeds. Farmyard manure is preferred; shoddy and soot are used, the latter tending to keep down slugs.

As is well known, the Aberdeen strawberries come in after our own are done, and my friends there use many more kinds: Vicomtesse de Thury, Black Prince, King of the Earlies, for the first crops, and Myatt's Improved, Rivers' Eliza, Paxton, President, and Keens' Seedling, with British Queen for main crop. They are planted 30 by 15 inches apart, and three years is the limit of a paying crop, but on deep or very highly manured soil as much as eight years; by the use of early and late sorts the picking is extended to eight weeks. The planting so far north is necessarily deferred till April. The alleys are lightly dug between during spare time in winter; the rainfall doubtless settles the soil in that district, and thus allows of what would be a wrong practice elsewhere.

In the Evesham district, where Lord Sudeley has established his fruit farms, the general practice is to plant 30 by 18 inches, and to allow a plantation four or five years. Sir Charles Napier and Paxton are grown for punnet work, and Stirling Castle, President, and the old Scarlet Carolina Pine for jam, the latter, although small, making the best preserve, and under Mr. Beach's system the fruit keeps its whole condition and colour. The picking lasts about five weeks, and planting is done in early autumn and spring. After the crop is gathered the runners and spare foliage are removed by bagging hooks, and the mulch taken off. Hoeing is then done by hand or horses, and the plantations left till the spring.

It is well known that Cornwall supplies the first strawberries. Alice Maud is the best early, President and Paxton for main crop. President carries badly, and is used for home markets. The Cornish plant is closer than others—20 by 14 inches for Alice Maud, and 26 by 16 inches for others. From the nature of the soil, possibly, and in consequence of more frequent rains, the Cornish beds last as long as fifteen years. This is a great point in their favour. My friend there picks two tons a day. When it is considered that no jam is made, this represents a large quantity of pound baskets. The picking lasts four weeks. New plantations are made in September, after a crop of early potatoes if possible. A feature in my informant's notes deserves mention. He keeps his hands on the farm all the year round, the winter months being utilised by making punnets, for which he has invented several labour-saving machines. In fact I can buy punnets from him so cheaply that they are much under those made in London, notwithstanding the carriage, and are a better article. To sum up the various reports, the first point that strikes me is the few kinds grown; but the public are very conservative, and new kinds are not popular in the market. From what I hear, Laxton's Noble is likely to be one of the most popular for early work. Its precocity and large size cannot fail to make it a favourite. Eight shillings per pound is a high price for open-air fruit, and many of my correspondents speak in its favour. In our own field culture we find the following most productive, and for home sale I think the selection cannot be improved:—

First Early.
King of Earlies
Noble
Pauline

Early.
Keens' Seedling
Vicomtesse de Thury
Grosse Sucrée
James Veitch

Late.
Duke of Edinburgh
Aromatic
Eleanor, or Oxonian
Elton Pine
Kimberley (tender)
Waterloo

Main Crop.
Paxton
British Queen
Dr. Hogg
President (Green's)
John Powell, or Goliath
Trollope's Victoria
Napier
Bicton White Pine

Preserving.
Keens', Elton Pine,
Sabreur, and Newton Seedling.

Among the newer kinds Captain does remarkably well on heavy land such as the Weald of Kent, and on light soil which will not grow Queen or Dr. Hogg, we find Trollope's Victoria, Keens' Seedling, Vicomtesse de Thury, and Paxton will succeed. But I am trespassing on your time, and will reserve my notes on garden culture for another paper. It is strange that such taking sorts as James Veitch, Burghley, President, Frogmore Pine, and Goliath have never become popular for market. The colour of Waterloo may be objected to, but it is doubtless a great gain among the latest kinds.

In order to deserve success, deep culture and heavy manuring are necessary, and this should be applied before the crop is planted, as it cannot be afterwards done so readily. I should prefer to mulch with long manure, but it cannot always be had in sufficient quantity. There is no doubt that such straw dung, turned once, and applied early in May, greatly assists the plants in making foliage and in strengthening the blossom. Where a substitute is required we have found bone dust and soot very suitable.

In conclusion, I would mention that many growers are trying new kinds, and a few years will probably see more early and late kinds in cultivation. This, with varying aspects, should add ten to fourteen days to the strawberry season, which is all too short at present. I have not ventured to give any figure as to profits, because on a former occasion my remarks were greatly misrepresented. I can, however, affirm that a handsome profit can be made where the culture is properly done.

DISCUSSION.

Mr. A. DEAN objected to the inordinate size of some of the modern strawberries, their dull, heavy colour, and general lack of flavour. With respect to size and colour, he pointed to a beautiful even sample from Mentmore as offering a correct ideal. He denied that cost of carriage was any bar to foreign competition, for only the other day two tons of strawberries landed at Southampton had been sold twenty per cent. cheaper than the price asked for home-grown fruit.

Mr. MORRIS remarked that anyone desirous of full information on all matters connected with strawberry culture should pay a visit to the Society's Gardens at Chiswick, where almost every known variety was now growing, and consult with Mr. Barron, the superintendent.

NATIONAL ROSE CONFERENCE.

Held in the Society's Gardens at Chiswick,

July 2 and 3, 1889.

HORTICULTURAL SECTION.—*July* 2.

The Conference was opened by the Very Rev. The Dean of Rochester, D.D., President of the Conference, who said:—

On a summer's evening some five-and-forty years ago, a young English gentleman who had just finished his career at Oxford was sauntering round his father's garden—a pretty garden, full of all the old pleasant things—but he was thinking more of the "weed" between his lips than of the flowers around him. Classical literature, and field sports, and pretty faces, and graver matters than these had caused that love of flowers innate in all the children of "the grand old gardener" to pale its ineffectual fire. He was blind to the glory that was all around him. Suddenly—I am telling you literal simple facts—suddenly, he, or I, for I was he, and I know to a few inches the very spot—suddenly he saw the glow of the western sun upon a rose. It was a Gallica Rose, and the splendour of its crimson hues caused him to say from his heart, "Oh, how beautiful!" I could have almost knelt—I say "almost" because I was in dinner dress, and Poole's expensive garments were not adapted for kneeling on gravel walks; and therefore, I satisfied myself, after I had made obeisance, by visiting every other rose which I could find in the garden. There were not many in those days. There was the old Cabbage—what a name to give a sweet lovely rose!—you might almost as well call it Bubble-and-squeak. There was the Moss Rose, the Rosa Mundi, commonly called the York and Lancaster; there was the little Fairy Rose, that we used to call Doll's Rose; there was the Crimson Damask, and I am not quite certain whether this rose I now have in my coat—Lee's Perpetual—was there or not. There were a few named varieties which our zealous old gardener had persuaded my father to buy, and these were considered the novelties and glories of the period. There was Charles Duval, Brennus, Blairii No. 2, Fulgens, Charles Lawson, and I think Madame Laffay. I delighted in my sudden but very complete conversion. Love at first sight—first-born heir of all—made this night thus, and the next morning I wrote for "Rivers on the Rose." I devoured, I digested every word of it. I marked under almost every rose—like a young lady's letter, where all the adjectives are scored under—and, as soon as it was possible, in the month of November, came one of those delightful baskets that we rosarians love as much as the school-boy does the hamper from home. I delighted to cut the cords and unravel the matting. The roses responded to my admiration and smiled upon me, and never since the days of Paradise had there been such roses seen in Nottinghamshire. Friends came to admire them, and I planted more and more, until at last our garden was like the Crystal Palace under a pyrotechnic influence--it was all *couleur de rose.* I was not satisfied with the admiration of friends; the public must gaze and wonder and see the first prize written beneath. Still I was dissatisfied; hunger and appetite came with eating. I was indignant that the queen of flowers should be treated more like a lady-in-waiting than as royalty itself. It was put into a corner of the show, and judged very often by men who hardly knew a rose from an artichoke; and while other flowers, the carnation, the chrysanthemum, and the dahlia, had exhibitions all to themselves, there was no such thing as a rose shown in its own unaided dignity and beauty. Year by year this feeling grew upon me, and at last I made a public protest, and a strong appeal, not only in the magazines, but by private letters, that we might have a National Rose Show, until, more than thirty years ago, a few of us—the fewer men, the greater share of honour—met at Webb's Hotel in Piccadilly: Mr. Rivers, of Sawbridgeworth; Mr. William Paul. whom I am delighted to meet to-day; Mr. Charles Turner, of Slough; and Mr. Francis, of Hertford. Only two of us remain now of that little company. But our heart was in our work, and it prospered. We collected a sum of £200, and had our first great National Rose Show in St. James's Hall, just then finished, and for which we paid thirty guineas, on July 3, 1858. I had the happiness of giving away thirty-six silver cups, as the saying is, with my own hands, because I could not very well do it with anybody else's, and when

I presented two to myself, my dear old Yorkshire gardener said he thought I should have gone right up, like Ganymede, you know, whom Jupiter snatched from earth in order that he might be his cup-bearer in Olympus. From that time rose shows became an institution, and the greatest result that came from them as regards us rosarians was the institution of the National Rose Society, mainly by the efforts of our friend Mr. D'Ombrain. That Society has done its work, as I think, with consummate wisdom and zeal, and has had the arrangement of rose shows in England, north and south, east and west. It has done more than this—it has published an excellent catalogue of roses fit for exhibition, and in later days, a selection of roses which are best for general enjoyment in the garden. That supplement was to me most welcome, because there prevailed an idea amongst florists that we rosarians only cared for obese blooms; but the reality is this, and you will testify to the truth of what I am saying, that it is impossible to love one rose really and not love them all; and I do not think any man deserves the name of gardener who does not see something to admire in every flower that grows. And now I have been obliged to be very egotistical, because it has all been historical; and I may state, not without some little vanity, that from that single rose on that summer's evening, hundreds of additional acres have been planted with roses, and that little spark has lighted ten thousand fires. It remains for us old rosarians to do all we can for our younger brethren, to tell them all we know about soil and situation, enrichment and cultivation, and to put before them the *pros* and *cons*, the losses and gains of exhibiting roses. One hardly knows what advice to give to the neophyte as to which line he should take. I think if I began again from the beginning to be a rosarian, I should like to have a sort of amphitheatre of roses, slopes of roses, cataracts of roses—like those of Ayrshire, which came down from the house of Mr. Rivers—arcades of roses, arches of roses, avenues of roses. I should like to have every rose that grows, and it is delightful to see to-day almost every rose that is known in this exhibition, which has been so elaborately arranged and so well supplied. At the same time, if I were going round this beautiful garden a few days before the show, and saw what a young sporting friend of mine, who is a rosarian also, described the other day as the "ripping twenty-four"—I know I should feel fidgety and uncomfortable, like the hunter who hears the horn in the distance, or like the soldier who listens to the trumpet and the drum; and I know the old days would come back when one had the glowing happiness to go into one's garden when the sun was rising, at three o'clock in the morning, and seeing that splendid sight of those roses washed with dew—an *embarras des richesses*; and then the completion of the box, the travelling by the rail, and the arrival, when—

From dusk to dawn, from night to morn,
We dozed through clank and din,
And woke with cramp in both our legs
And bristles on our chin.

Then the delight of making ourselves C.B.s—companions of the bath—the arrangement of the show, the anxiety and doubt, and at last the victory. Between these phases I should hardly know whether to recommend a rosarian to become an exhibitor or not. You will bear with my personal recollections, because you know my heart is in the cause. "I am not the rose," said the earth in the Persian fable, "but cherish me because we have grown together." It is not right to make a long grace when we are longing for the meal, and it is not right for me to make a too long preface when we are going to have so much practical information, and so I will only add that this is a happy day to my heart. It is a happy day for me, for I feel like some old grandfather surrounded by his children and his children's children; and to those who are strangers, to those who are perhaps only just beginning to love roses, to those who come from a distance, and to those who come over the waves to England, I apply to them the name, not strangers, but brothers. One touch of rose love makes the whole world akin. *Multæ terricolis linguæ, rosicolis una.* Our language may be different, but there is something in our hearts that has the same congruity of sound, and we welcome all to-day, knowing that they will join their voices with ours, *Floreat regina florum; Vive la reine des fleurs!*

THE PRUNING OF ROSES.

By the Rev. A. Foster-Melliar.

Introductory.

In treating of the subject of pruning of roses, one is met at the outset by the question: Why is pruning necessary at all? Why should not our rose-trees grow as fine and large as they will? The answer is to be found in the manner of the natural growth of the rose. By watching an unpruned rose-tree, either wild or cultivated, it will be found that the first strong shoot flowers well the following season, but gets weaker at the extremity in a year or two, and another strong shoot starts considerably lower down, or even from the very base of the plant, and this soon absorbs the majority of the sap, and will eventually starve the original shoot, and be itself thus starved in succession by another. A rose in a natural state has thus every year some branches which are becoming weakened by the fresh young shoots growing out below them. And this is one of the first reasons why pruning is necessary. A rose is not a tree to grow onwards and upwards, and as standards seem to be going out of fashion, and so many varieties are dwarf in their growth, it seems better to speak of rose-plants than of rose-trees.

Objects in view.

The objects of pruning are:—To maintain the life and strength of the plants, to mould and preserve their shape, and to give more vigour, colour, and substance to the flowers. Owing to the natural habit of growth before mentioned, a considerable amount of wood must be taken away annually to prevent the shoots robbing each other, and, when nature is thus once interfered with, art must step in to make and to keep a plant of well-balanced shape. And further, even for ordinary garden purposes, a considerable amount of strength and sap must be reserved for each bloom, or, in the case of the dark H.Ps., they will not show their true colours at all.

Why the Art has declined.

The principal art of pruning—that of forming and maintaining a shapely plant of well-placed shoots—has very much declined of late years, owing to (1) the decadence of really strong-growing varieties, (2) the waning popularity of standards, where a well-balanced head is more noticeable and necessary than in a dwarf or bush plant, and (3) the fact that most enthusiastic rosarians are also exhibitors, and therefore care more for fine perfect blooms than for well-shaped plants. When I first learnt to prune, upwards of thirty years ago, H.Ps. were something new, and there were still a great many large standards of summer roses, each of which was a study in itself for the pruner's art.

Instruments.

First, then, as to the instruments. A pruner of the old school would condemn the use of scissors, be horrified to see a shoot cut off square, and would consider the neat, smooth, sloping cut of a sharp knife to be the only legitimate appearance, and he would also perhaps scorn the use of gloves and think he could do his work better without them. This last point must be a matter of taste, but it is useless to deny that roses have thorns, which are especially hard and sharp at pruning time; and it is well to remember that in using a knife, especially with budded roses of one year's growth, the plant must be firmly held with the left hand, or a serious breakage is very apt to occur.

Two good knives, an oilstone, a regular pair of pruning scissors, and a kneeling mat for dwarfs, will probably prove a sufficient equipment. One of the knives should have a strong blade, the other a narrower and smaller one. The hone should be carried about, and not left behind, or the tearing off of a valuable branch will soon be the result of a blunted blade. The scissors will be useful for very small shoots, and sometimes for very large ones, and especially handy for bits of dead wood in awkward positions; in the two last cases the cuts should afterwards be trimmed and smoothed with a knife. For kneeling on the cold wet soil I have found a piece of waterproof about 18 inches square more satisfactory and less tiring than kneecaps; and remember that the weight of the body will bring moisture through any alleged waterproof that has not an actual skin of india-rubber.

The Season of the Year.

Next as to the time of year. Some recommend a certain amount of thinning in early autumn, to ensure the ripening of the remaining shoots; but this may sometimes have the effect of causing low dormant buds to push, which is undesirable; it certainly lessens the number of our autumn blooms, probably checks the root-power, and the benefit gained does not seem to be large.

We may commence with roses trained on south walls about the middle of February, and the pruning of H.Ps. and summer roses begins in earnest with the following month. March will not be found too long for the cultivator who has a large amount of H.Ps. under his care; for there are generally many days in that "month of many weathers" when nothing but real enthusiasm will maintain the requisite amount of patience in the rosarian's breast, kneeling on the chilly soil over his dwarfs day by day, and exposed to the pitiless east wind. It is best to leave Tea roses in the open undisturbed till April; a reckless pruner in the shape of Jack Frost has generally been before us, and often we are grateful enough if he has left us any life to prune back to.

The Method.

Now as to the actual *modus operandi.* It must first be asked, Do we require handsome plants for general decoration with fair blooms for cutting, or are we pruning for exhibition?

We will take the former case first as the most complicated. The first care will be to cut out all dead wood, and all wood, however thick and old, which, as shown by the small growth made last season, is becoming weakly in comparison with other stronger shoots. Now we can study the plant, and see what we have got left. Our object is to form a well-shaped head or plant; and by "well-shaped" I mean that the plant itself should be of the even globular form of a rose. Rose-petals are evenly arranged, and none cross each other in an inward direction; such should be the shape of the plant. Bearing in mind that the top bud left of each shoot will grow first, and in the direction in which it points, we should always cut back to a bud that looks outwards, and take care that the centre will not be too crowded. If we want to get rid of a misplaced shoot, it should be cut right out at the bottom; merely cutting it back will only make it grow the more. It must be our endeavour, each year, to do away with as much old wood as possible, especially in the middle of the plant, and, in the case of strong growers, we must harden our hearts and thin the number of shoots remorselessly. We should picture to ourselves what the plant will look like in full growth, and remember that a lover of roses is more likely to leave too many than too few shoots. There is a saying in East Anglia, "No man should hoe his own turnips," meaning that he is not likely to thin them sufficiently, but those who are used to thinning grapes and other garden produce will probably have got over this difficulty.

The Golden Rule.

The next question is, how many buds are to be kept on each shoot retained; and the answer is to be found in the golden rule of pruning, that more buds are to be left on each shoot in proportion as the plant, both as a variety and an individual, is strong, and less in proportion as it is weak.

To a novice in rose-growing it appears strange at first that we should cut away almost all there is left of a weakly-growing and precious variety, which would seem to be almost exterminated by such severity, and yet leave longer shoots on a strong sort, which seems better able to stand the rough treatment; but the rule is, nevertheless, in strict accordance with the law of Nature—Darwin's survival of the fittest; and the law of God —"Whosoever hath, to him shall be given." It is of widespread application. In education, for instance, it is beginning to be found out that it is wiser to add to the knowledge a child possesses, and to concentrate all teaching on the one branch for which an aptitude is displayed, than to introduce a variety of fresh subjects. But I must stick to roses; and we shall find the same rule apply in other branches of cultivation besides pruning. If we were to give directions to an ordinary labourer to apply liquid manure to the plants, we should very likely find him choosing the weakly ones as recipients of stimulant and nourishment, and omitting the strong, on the plea that they did not want it. That would be a mistake: it is the healthy and strong who want it, because they can use it. The weak cannot; the nourishment they have is more than they can manage. Again, every rosarian finds that some varieties of roses do well with him, and some do badly. The first idea is to grow less of the sorts of which we have plenty of good ones, and more of those which have not been so successful. And an exhibitor must do this to a certain extent, but it is a pity; it is doing that which we should always endeavour to avoid, viz. fighting against Nature, instead of directing, and even diverting, and yet siding with her. To get the greatest number of most beautiful roses we should grow those sorts only which we find to do well.

The rule as to the number of buds to be left on each shoot therefore is: In proportion as a plant is strong in growth, either from the natural habit of the variety, or, in a less degree, from the actual condition of the individual, leave more buds on each shoot; because the strong grower has a capability of supplying several buds on each shoot with a sufficiency of sap for good blooms; and, if a due number be not allowed, the shoots will either not flower at all, or produce coarse and ill-shaped blooms. And, in proportion as a plant is weakly in growth, fewer buds should be left; because the weak grower has only sufficient strength to supply sap to one or two buds on each shoot; and if more are left, the power will not be sufficiently concentrated to form good blooms. The general habit of the variety should therefore be well borne in mind in determining how many buds to leave on each shoot; remembering always, with a view to the summer outline of the plant, to prune to an out-looking bud; and that, as a general rule, the more a shoot is cut back, the longer will be the growth from the bud left at the top.

Method continued.

After a warm summer, most of the young wood on a well-pruned and healthy plant will be moderately ripe; but we occasionally find an extra well-ripened shoot, almost as firm and brown as the old wood, with large buds ready to start at the first chance. This is very valuable, and plenty of space should be allowed for its development, less ripe shoots being removed to make room for it. On the other hand, we often find gross, strong, but late, unripened shoots, much thicker, but greener, with a much larger proportion of pith. These are comparatively useless, and should generally be cleanly and carefully removed. If any shoot, by its unusual size, evidently absorbs a large proportion of the sap of the plant, it should be, according to its ripeness and the condition of the rest of the plant, either removed altogether, or left a good length, other shoots being cut out to make way for it.

A good deal may be done to remedy faults and defects by a careful examination of each plant in early May, when a further thinning of the young shoots may be practised, if necessary. Of those growing too close together, or filling up the centre, one or two may be rubbed off. But we must not be rash ; if undecided, it may be prudent to postpone the examination for a week or so, when we can still rub the shoot off, but cannot put it back.

If a plant is carefully pruned from the beginning, it seldom presents many difficulties, as long as it continues in health ; but those which have been neglected for only one year, often require to be cut back sufficiently to form an entirely new framework during the following season.

For bedding purposes, the pegging-down system is fairly successful with really strong-growing varieties, of not too stiff habit. All must be cut away save two or three (not too many) of the strongest shoots, which are bent down and pegged over the bed. They will break and bloom all over, and in late summer other shoots will probably spring from the base, which will take the places of the old ones, if necessary, in the following spring.

Standards of the Gloire de Dijon race may be trained to form umbrella-shaped or weeping roses, on a similar system.

Pruning for Exhibition.

Pruning for exhibition is a different matter altogether ; our object in this case is to get the finest possible blooms, and the exhibitor will not generally care a fig about the shape of his plants, so long as he has better roses to cut than his rivals. If number is required, the plants must be multiplied, as but few blooms must be expected from each.

Pruning in this case loses most of its art : almost all, and, in some cases where there is not sufficient ripeness, all the new wood will be simply cut away, and the resulting shoots thinned as soon as separable, according to the habit of the variety. Exception must be made in the case of some of the strongest-growing H.Ps., which will bloom but sparsely and too late, if they are cut back too far ; and of certain varieties, which are apt to bear coarse flowers, but this can sometimes be remedied by a discretion in thinning the flower buds.

Tea Roses.

We now come to the pruning of Tea Roses in the open. Roses of this class, if well fed, and spared by the frost (of which latter contingency I have but little knowledge), might be pruned but little ; and, in a rich soil, in a district of mild winters, or where protected by glass, I imagine a mere removal of dead and weak wood, and of budless tips, would suffice for these charming plants. But in many parts of the country, particularly in low-lying districts, we often find, in spite of our best efforts at protection, that the greater part of each plant has been killed or severely injured during the winter; and are only thankful, as I have said, if we can find some real life to cut back to.

For exhibition purposes, the pure Tea Roses should in all cases be pruned back as hard as the H.Ps.; there is no fear of these free flowering roses failing to bloom. But the now large Gloire de Dijon race, Maréchal Niel, and the Noisette hybrids must be treated differently; the long strong shoots of the year reserved to nearly their full length, and the old and weak wood only cut out.

Maréchal Niel under Glass.

I must pass over the pruning and training of pot roses and roses for forcing, as subject to the same general rules; but Maréchal Niel under glass seems to do best under the following special treatment. In a house fitted with wires up the roof, let a strong young standard be planted as a vine, with plenty of room for extension on either side. Prune it completely back in the winter, and select two shoots only, training them horizontally right and left immediately under the bottoms of the wires. If still growing when they reach the end of the house, or as far as the rose is intended to cover, train each up the end wire, and, if they reach the top, stop them as you would a vine.

No pruning whatever will be required the following winter, but the plant must be always highly fed. The rose will probably bloom freely along the rods in the spring, and, as soon as this is over, the upright rods (if any) must be cut right back to the horizontal part, and an endeavour made to train a shoot up each wire, all other buds and new shoots being clean removed. The chosen shoots may appear weak at first, but they will gain in strength, and the autumn growth, if the plant be healthy and well nourished, will be very rapid. Probably all the shoots will not reach the top of the house this year; but let them grow as much as they will, stopping them when they do reach the top. Early in the following spring—dependent, of course, upon the amount of heat supplied—a bloom will appear at almost every bud, and, when the crop of flowers is over, probably about the end of April, every upright rod must be cut clean away again down to the horizontal branches, and during the summer fresh shoots trained up in their room, and stopped as before on reaching the top of the house. It is best to do this cutting away of the upright rods gradually, during a week or so, and not all on one day, because we thus lessen the severity of the check to the plant.

This is a simple, systematic, and regular method, which I have found to answer extremely well.

Conclusion.

With this I must conclude—pruning is a most essential part of our art, which must be patiently and thoroughly carried out at an inclement time of year, when beautiful roses seem but a dream of the future; but the ardent rosarian will at all times have the present season in view as the harvest and reward of his labours, and will work zealously all the year round, in cold and heat, rain and drought, frost and snow, shadow and shine, in behalf of the motto of our craft,

"*Floreat Regina Florum.*"

DISCUSSION.

The PRESIDENT said he had seen gardeners prune their grape vines till tears came into his eyes. When he was a young rosarian he pruned a Blairii No. 2, and the consequence was that he got no bloom for a good many years. They must cut roses according to their state. He was very glad that the system of pegging-down had been mentioned, because he thought it was a beautiful system which few rosarians adopted. He did not know anything much more beautiful than a well-to-do bed of pegged-down roses. Here and there they might diversify the monotony of the surface by putting in short standards, or still higher standards might be put in, which would give a beautiful mass of roses. Very strong-growing roses must be selected. People were very much afraid of transplanting, but it was a great mistake to be afraid, and he had some roses which benefited very much from transplanting. When he went to Rochester he found some roses that were not fit to be seen. He said they must be burned, but someone said they might be put where they could not be seen. They were moved, and were now ten times better than they ever were. Mr. Foster-Melliar spoke about his Teas being seriously injured and destroyed by the severity of the winter. He was one of the first to grow Teas in large quantities out-of-doors, and he never lost any. The briar in all its shapes was the best stock as a rule for English roses.

Mr. BERTRAM asked what Mr. Foster-Melliar's experience had been with regard to the pruning of Maréchal Niels out-of-doors. It was, he thought, a most important question.

Mr. FOSTER-MELLIAR said he had mentioned that Maréchal Niel and Gloire de Dijon should have the shoots of the year before as long as possible, with the old weak wood cut out. All his own Maréchal Niels were effectually pruned, but they went through a 32° of frost, and there was an end of them. In answer to the President, he would say that all his Tea roses, of which he grew over 1,000 dwarfs, were all earthed-up like potatoes at the commencement of every winter, about a foot deep. He did not think there could possibly be a better protection from the frost; but, in spite of all that, a great many of them were killed. He lived in a very low situation, a circumstance very much opposed to the satisfactory growing of roses, Tea roses especially, and therefore, like an Englishman, it was the only flower he tried to grow.

The CHAIRMAN said a great risk was of course run in growing them out-of-doors; but if a Maréchal Niel was obtained out-of-doors in its integrity, they would get it in its fullest grandeur.

Mr. G. BUNYARD asked for some experience with regard to De la Grifferaie as a stock. He mentioned that he had some Tea roses which went through some winters very well, but which were killed by the winter of 1880, and he had given it up in despair. He instanced this because others might be on the same track, and it might save them some little trouble.

Mr. G. PAUL said the fault of De la Grifferaie was that it was one of the very earliest, and making roses start too soon was not an advantage. It adapted itself to the Gloire de Dijon. It was also used very largely for dwarf Teas, and for the Gloire de Dijon it was a very useful stock.

ON THE GROUPING OF THE GARDEN VARIETIES OF ROSES.

By Mr. William Paul, F.L.S., F.R.H.S.

If all the garden varieties of roses could be brought under view at one and the same time, they would be found to compose a very heterogeneous mass. The rose has been treated as a domesticated plant for so long a period that the varieties are almost innumerable, and are also remarkable for the extent to which they differ in habit, foliage, and flowers. So widely have our modern garden varieties departed from what may fairly be assumed to be Nature's roses, that it is difficult, if not impossible, in some instances, to conjecture from what species they have descended. Roses were grown from seed at least two thousand years ago, and the seedlings would no doubt vary in appearance of plant and flower *even then*. This variation would go on widening and increasing up to a certain period, and finally the hybridising and cross-breeding of modern times comes into play. The latter process has so mixed up the botanists' species, that in studying the modern varieties I often see—or fancy I see—features or traces of more than one or two species in the same variety.

Now the grouping of the garden varieties of roses might be attempted from various points of view; for example, they might be grouped (1) according to their botanical affinities; (2) according to their season of flowering; (3) according to their habit of growth; (4) according to the colours of the flowers; and so on. If, however, I rightly understand my work, I have nothing to do to-day with botanical affinities; Monsieur Crépin, who has greatly distinguished himself in this line, will, no doubt, efficiently cover this ground. *I have to deal with roses from the cultivator's point of view.* In taking up this work, two lines of action present themselves to my mind as the most desirable to follow—the one, to sweep away every vestige of the labours of previous workmen and rear a structure entirely new; the other, to preserve the foundations and solid walls of the old building, rearranging both old and new materials in such order as congruity, taste, and convenience may dictate.

After due study and reflection I have chosen the latter course, and, in doing so, I have not striven to differ *as much as possible* from my predecessors in this line in order to appear original, but *as little as possible*, that I might not add to the perplexities already existing from the too frequent practice of changing names.

The classification which I have endeavoured to work out has been largely influenced by the desire to bring into closest proximity those garden varieties which have the greatest external resemblance *in foliage and flowers*, so that the whole may be readily grasped and most advantageously dealt with by the practical mind in the decoration of our gardens and our homes.

I do not for a moment suppose that any classification would meet with universal concurrence. Probably no two persons, even if possessing equal knowledge of the subject, would agree to follow precisely the same lines. Should they agree at the outset as to the primary objects to be attained, they would almost surely *attach different degrees of weight* to the numerous features they must study and deal with, and on a summing up of the various details they would very likely arrive at different conclusions.

This view of the subject does not, however, render the attempt to grapple with it the less desirable, and however inadequate for its solution may be the single ray of light thrown upon it by any one individual, the desired goal may be clearly indicated and attained under the additional and converging rays of an intellectual discussion.

I propose to arrange all garden roses under two primary divisions.

DIVISION I.—SUMMER ROSES.

DIVISION II.—AUTUMNAL ROSES.

The summer kinds bloom in June and July only, but the autumnal flower both in June and July, and some of them throughout the autumnal months. Perhaps there is no great difference in the number of flowers produced, plant for plant, between given individuals of these two primary divisions. The summer kinds produce larger quantities of flowers in the summer, and are consequently more gorgeous at that season; the autumnals flower then more sparingly, and some of them give forth a second crop of flowers at a later period, while others of them continue putting forth driblets of flowers throughout the autumnal months. *This, I think, may be stated as the actual difference between the varieties comprising our two primary* *divisions*. Division I., Summer Roses, may be arranged in twenty-two groups.

Section I.

Group 1.—*The Scotch Rose* is composed of low round bushes, rarely exceeding 3 feet in height, which, when properly managed, are literally covered with small double globular sweet-scented flowers of various colours. They form neat banks and exquisite low hedges, are very distinct, and flower early, sometimes in the month of May.

Group 2.—*The Austrian Briar.*—These approach somewhat to the Scotch roses, but the growth is more vigorous, and the flowers are larger. The Copper Austrian, which belongs here, stands alone among roses in point of colour.

Group 3.—*The Double Yellow.*—Beautiful as this rose is in size, form, and colour, it is so capricious that very few care to be troubled with it; nevertheless, it may form a subject of interest and amusement to those who are fond of attempting the solution of difficult problems.

Section II.

Group 4.—*The Sweet Briar.*—The species of this rose should find place in every garden; the fragrance of its leaves in spring, the delicately-tinted blossoms in summer, and the rich glow of the scarlet hips in autumn, are successive objects of delight. A sweet briar hedge forms a picturesque object when suitably placed in the garden. There are various hybrids, but they do not possess the fragrance or interest of the species, nor the beauty of many other hybrids.

Section III.

Group 5.—*The Alba Rose.*—This group, which contains the "Maiden's Blush," is desirable both for our gardens and our tables, on account of the distinct and delicately-coloured blossoms and the ample cool-looking leaves which it supplies.

Group 6.—*The Damask Rose.*—To those who look closely into things, these roses are distinct enough. They are sweet and bright; and there is a hardy roughness in their appearance which is pleasing to look upon. "Madame Hardy," one of the finest of white summer roses, belongs to this group; and if we go back for a remote ancestry of the Hybrid Perpetuals one parent, the Rosa bifera, the "Pæstum roses with their double spring," are found here.

GROUP 7.—*The Provence Rose.*—These roses somewhat resemble the Damask, but not very closely; the growth is more pendulous, and the flowers are more globular. The old Cabbage rose is an example of this group.

GROUP 8.—*The Pompon, or Dwarf Provence.*—These are a separation from the preceding on account of their dwarf habit. They rarely exceed a few inches in height, the flowers are tiny and produced in great profusion. They form exceedingly pretty edgings to beds of roses of larger growth.

GROUP 9.—*The Moss Rose.*—It is hardly necessary to point out the distinguishing feature of this group, the moss-like surrounding of the flower-buds being known and appreciated by everybody. There are certain hybrids between the "Hybrid Chinese" and the "Moss" which are of greater vigour than the true Moss, but in such the mossy characteristic is less plentifully developed.

GROUP 10.—*The Pompon Moss.*—An exquisite little group, composed of two or three varieties only, separated from the preceding on account of their pigmy stature. The best varieties are "Little Gem" and "Moss de Meaux," and their fairy-like aspect appeals irresistibly to the lovers of the tiny.

GROUP 11.—*The French Rose.*—There was a time, and that within my memory, when this was the most important group of roses. But it is out of fashion now. A French or Gallica rose bush, well cultivated, is, however, still a striking object in the garden, owing to the profusion and brilliancy of its expanded flowers.

GROUP 12.—*The Hybrid French.*—This group is very similar to the last; it furnishes us, however, with some very lovely blush and creamy flowers, not to be paralleled by flowers of the same colour in any other group.

GROUP 13.—*The Hybrid Chinese.*—This group is not so fashionable as formerly, although individuals of it, as "Chénédolé," when in full bloom, are gorgeously beautiful. It is reasonable to suppose that they are hybrids between the "French" and "Chinese" roses. Where large-headed standard and *tall* pillar roses are valued, these and the varieties of the next two groups are of the very best.

GROUP 14.—*The Hybrid Noisette.*—Similar to the last, except that the flowers are smaller and produced in considerable clusters. The lovely white rose "Madame Plantier" belongs here.

GROUP 15.—*The Hybrid Bourbon.*—These roses are probably hybrids between the "Bourbon" and "Hybrid Chinese," resembling the latter parent in the more prominent features. The well-known "Charles Lawson" and "Coupe d'Hébé" belong here. This, and the two preceding groups, are invaluable for planting where masses of flowers are wanted for distant effect in summer.

SECTION IV.

GROUP 16.—*The Prairie Rose.*—This is a group of promise rather than of actual merit. I do not know any one variety that I should care to grow in the garden. Nuttall calls it "a very fine-flowering species," and it does look as if something might come of it in the future if judiciously hybridised.

SECTION V.

GROUP 17.—*The Ayrshire Rose.*—These are climbing roses of hardy vigorous growth, well suited for covering rough places, whether banks, fences, or old trees on lawns, or in shrubberies.

GROUP 18.—*The Evergreen Rose.*—This is another group of hardy, vigorous climbing roses, similar to the last in appearance and more valuable for many purposes, as they hold some of their leaves during winter. "Félicité-Perpétue" is a splendid white rose for a wall or house with north or west aspect, growing rampantly and flowering freely there.

SECTION VI.

GROUP 19.—*The Boursault Rose.*—I have never seen the varieties of this group grow and flower better than they did on a north wall in my father's nursery some forty years ago. Although a gravel walk ran within two feet of the wall, the latter was every year completely covered with hanging masses of flowers.

SECTION VII.

GROUP 20.—*The Multiflora Rose.*—This group furnishes some very pretty and distinct roses, and I remember when they were much more popular than at present. Some of the loveliest varieties are tender, and it is probably owing to this fact that they have lost caste. Still, they are well worthy of a place in some sheltered spot in the garden.

GROUP 21.—*The Polyantha Rose.*—This is a comparatively modern group, similar to the last, but sufficiently distinct from it, from the cultivator's point of view, to demand separation. The flowers are small, and produced in enormous clusters ; the growth varies much, but is generally vigorous.

SECTION VIII.

GROUP 22.—*The Banksian Rose.*—This is the last of our summer-flowering groups. The flowers are very small, and produced in clusters. The prettiest varieties are the ordinary white and yellow, the former of which is sweet-scented. Both, in this country, require a wall and warm soil, and they should be pruned immediately after flowering.

DIVISION II.—AUTUMNAL ROSES.

SECTION IX.

GROUP 23.—*The Berberry-leaved Rose.*—The "Berberifolia Hardii" is a well-known variety, with small single yellow flowers, and a chocolate-coloured spot at the bottom of each petal. It is not only singularly beautiful, but has the great merit of distinctness.

SECTION X.

GROUP 24.—*The Perpetual Scotch.*—The only variety in this group of special value as a garden rose is the "Stanwell Perpetual." It flowers early and late, and is deliciously sweet.

GROUP 25.—*The Perpetual Moss.*—It is a great thing to have Moss Roses flowering in the autumn, although the mossy surrounding of the buds is not so prominent a feature here as with the summer-blooming kinds.

SECTION XI.

GROUP 26.—*The Macartney Rose.*—Both the single and the "Maria Leonida" are well worthy of cultivation. They are best grown on a wall or fence, or in some sheltered spot in the garden, as they are not very hardy.

GROUP 27.—*The Clinophylla Rose.*—"Lucida duplex," which we place under this heading, is one of the loveliest of blush roses. I must confess that I have some doubt whether it is in its right position under this heading, and shall not be surprised if in the future some other group should establish a stronger claim to its possession.

SECTION XII.

GROUP 28.—*The Microphylla Rose.*—The original microphylla rose is an exceedingly pretty variety, well suited for placing against a south wall. Both leaves and flowers are distinct and interesting.

GROUP 29.—*The Rugosa Rose.*—Where large showy roses are valued, these flowers will not fail to please, and the bright scarlet fruit of the "Regeliana" and "Rugosa alba" is very attractive in the autumn.

SECTION XIII.

GROUP 30.—*The Hybrid Perpetual Rose.*—We have here a group that requires something more than a passing word, for it contains the largest proportion of our most valued garden varieties, which have all sprung into existence within the last forty or fifty years. The "Damask Perpetuals," which were the immediate source of this group, were exceedingly popular at that time, although now scarcely ever heard of. If we wish to trace their origin still further back, and some may, as the "pedigree" movement among roses is fashionable just now, we must go to the old four-seasons rose, which is a variety of the "Damask." Our first "Hybrid Perpetual" roses were hybrids of the "Damask Perpetual," and later on a stronger race was reared between the "Damask Perpetual" and "Hybrid Chinese," and still more recently a more varied brood from between the "Hybrid Perpetuals" themselves and various groups—the "Tea-scented" and "Bourbon" especially.

GROUP 31.—*The Bourbon Perpetual.*—It would seem that we have here a race between the "Hybrid Perpetual" and "Bourbon." The flowers are mostly white, blush, and rose, not large, but nicely shaped, and there is a finished appearance about them that pleases the lovers of precision. They bloom more freely in the autumn than the ordinary run of "Hybrid Perpetuals."

GROUP 32.—*The Rose de Rosomane.*—I have often thought that this group has some of the blood of the "Crimson Chinese" be too great a resemblance in your acquisitions. I have thrown away scores of good seedling roses because I thought they bore too close a resemblance to pre-existing kinds. The raiser of seedlings should endeavour to break new ground, to strike out new combinations by bringing the hitherto uncultivated species into his arrangements; and it is reasonable to suppose that in dealing with them, as with others in the past, he will ultimately be richly rewarded.

Division I.
SUMMER ROSES.

Group *Section* 1.
1. The Scotch Rose
2. The Austrian Briar
3. The Double Yellow

Section 2.
4. The Sweet Briar

Section 3.
5. The Alba Rose
6. The Damask
7. The Provence
8. The Pompon Provence
9. The Moss
10. The Pompon Moss
11. The French
12. The Hybrid French
13. The Hybrid Chinese
14. The Hybrid Noisette
15. The Hybrid Bourbon

Section 4.
16. The Prairie

Section 5.
17. The Ayrshire
18. The Sempervirens

Section 6.
19. The Boursault

Section 7.
20. The Multiflora
21. The Polyantha

Section 8.
22. The Banksian

Division II.
AUTUMNAL ROSES.

Group *Section* 9.
23. The Berberry-leaved

Section 10.
24. The Perpetual Scotch
25. The Perpetual Moss

Section 11.
26. The Macartney
27. The Clinophylla

Section 12.
28. The Microphylla
29. The Rugosa

Section 13.
30 The Hybrid Perpetual
31. The Bourbon Perpetual
32. The Rose de Rosomane
33. The Bourbon
34. The Chinese
35. The Crimson Chinese
36. The Fairy
37. The Tea-scented
38. The Climbing Tea-scented
39. The Hybrid Tea-scented

Section 14.
40. The Musk
41. The Noisette
42. The Noisette Perpetual

Section 15.
43. The Ayrshire Perpetual

Section 16.
44. The Polyantha Perpetual

Discussion.

The President said he was sure they were all greatly indebted to Mr. Paul for his interesting paper. He himself seemed to have gone through the whole gallery of roses as Mr. Paul went from one to another, and he hoped that what they had seen and heard that day would enrich many gardens with some forgotten gems. The "Copper Austrian" had been mentioned, and he should like to know how to grow it, as he had often tried and had always failed.

STOCKS FOR ROSES.

By Mr. Edward Mawley, F.R.H.S., Hon. Sec. N.R.S.

Although the battle of the stocks has now raged for many years, rosarians are as yet by no means in agreement as to the main points at issue, that is to say, which are the best stocks to use for different varieties of roses under various conditions of soil and climate. In the present modest contribution towards the elucidation of this vexed question, I propose simply stating the results of my own personal experience of the four stocks most frequently employed—the Manetti, the seedling-briar, the briar-cutting, and the standard-briar. During the fourteen years I cultivated roses at Croydon, plants were purchased at different times on all these stocks, and each year roses were budded on one or other of them. From casual observation of these purchased and budded plants I had no reason to prefer any one particular stock beyond the other three, all appearing to thrive about equally well. In making up fresh beds plants on each stock were used indiscriminately, so that I was unable afterwards to form any precise judgment as to their individual merits. As indirect testimony, however, in favour of all four, it may be mentioned that the plants were, with scarcely an exception, unusually vigorous, and that it was very rarely indeed that any plant in my rose-beds either died or became so weakly as to justify its removal.

In the winter of 1884–5, 120 of these dwarf plants were taken up, removed to Berkhamsted, and planted together in a single bed. At the present time, although both soil and climate are here very different from what they were at Croydon, they still continue to maintain to a great extent the character I formed of them when there. In fact, taken together, they are the best rose plants that I have. There are now only two blanks in the whole bed, and only a few plants, and those mostly of one variety (A. K. Williams), which are at all weakly; and yet many of these plants were four or more years old when first brought to Berkhamsted, and the youngest of them all cannot well be less than six years old. It is from this bed that in most years I cut my finest exhibition blooms. The soil of the rose-beds at Croydon consisted almost entirely of yellow fibrous loam imported for the purpose, the subsoil being of a very porous sandy nature.

When starting a new rose garden at Berkhamsted, I thought it would be interesting if I took advantage of the opportunity to test systematically the relative merits of the Manetti, seedling-briar, and briar-cutting as stocks. For this purpose I had beds dug across a small piece of grass land adjoining the house sufficiently wide to hold two rows of plants. This new rose garden faces nearly due south and is on a steep slope, the gradient being about one in seven. The surface soil was found to consist of clayey loam and large flints about a foot in thickness; beneath this came a hard pan of clay and flints of about the same depth, which, in making the beds, was broken up. The subsoil is pure chalk. In these beds the varieties of Hybrid Perpetuals selected were thus arranged. First came four plants of one sort on the briar-cutting, then four of the same kind on the Manetti, and lastly, four plants on the seedling-briar, this order being maintained throughout the collection.

The following table shows the relative positions of each of the thirty-four varieties in these experimental beds five years after planting.

Name of Variety.	Seedling Briar.	Briar Cutting.	Manetti.	Name of Variety.	Seedling Briar.	Briar Cutting.	Manetti.
Abel Carrière	1	2	3	François Michelon	2	1	3
Alfred Colomb	1	2	3	Horace Vernet	1	3	2
Annie Wood	1	2	3	La France	2	1	3
Baroness Rothschild	1	2	3	Louis Van Houtte	1	2	3
Beauty of Waltham	2	1	3	Madame Gabriel Luizet	2	1	3
Camille Bernardin	3	1	2	Madame Lacharme	1	2	3
Captain Christy	1	2	3	Madame Victor Verdier	1	2	3
Charles Lefebvre	1	2	3	Marguerite de St. Amand	1	2	3
Comtesse d'Oxford	2	1	3	Marie Baumann	1	2	3
Countess of Rosebery	1	2	3	Marie Finger	2	1	3
Dr. Andry	2	1	3	Marie Rady	1	3	2
Duchesse de Vallombrosa	1	2	3	Marie Verdier	1	2	3
Duke of Edinburgh	1	2	3	Marquise de Castellane	2	1	3
Duke of Wellington	1	2	3	Reynolds Hole	1	2	3
Dupuy Jamain	1	2	3	Sénateur Vaisse	1	2	3
Etienne Levet	2	1	3	Star of Waltham	2	1	3
E. Y. Teas	2	1	3	Xavier Olibo	2	1	3

The plants on the Manetti of Alfred Colomb, Baroness Rothschild, Comtesse d'Oxford, E. Y. Teas, La France, Louis Van Houtte, Marie Finger, Marie Verdier, Marquise de Castellane, and Reynolds Hole were found on a critical examination to be much inferior to those on the other two stocks. With these exceptions, however, the plants on the Manetti are all good ones, although in no instance as strong as those on the briar-cutting and seedling-briar. On the other hand, in the case of Annie Wood, Beauty of Waltham, Camille Bernardin, Charles Lefebvre, Dr. Andry, Duchesse de Vallombrosa, Duke of Edinburgh, Duke of Wellington, François Michelon, Madame Gabriel Luizet, Marie Rady, and Sénateur Vaisse there is very little to choose between the three sets of plants. In many instances I found it difficult to decide between the briar-cutting and seedling-briar plants, both being almost equally vigorous. In November last I took up at random six plants on the seedling-briar, and the same number on the briar-cutting and Manetti, and carefully examined their roots. In very nearly every instance the roses had thrown out roots of their own round the collar of the plants, while the roots of all the stocks, Manetti included, remained perfectly sound and healthy. From the foregoing particulars, taken together with the results of an annual examination of the plants,* the following conclusions may, I think, be fairly drawn:—

1. That on a mellow loam of good depth, with porous subsoil, Hybrid Perpetuals on almost any stock will thrive and do well.

2. That the seedling-briar has so far proved itself the best stock for the heavier soil and colder climate of my present garden.

3. That the briar-cutting under similar conditions is but little inferior to the seedling. In fact from the first it has been gaining on the latter. In the autumn of 1886, the plants on the cutting were credited with but five first places against twenty-seven for those on the seedling-briar, whereas the most recent examination accords thirteen first places to the cutting and twenty-one to the seedling.

4. That the Manetti has proved itself in every instance inferior in a greater or less degree to the two other stocks, while in ten out of the thirty-four varieties in the experimental beds the difference is very marked. On the other hand, with thirteen

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* "Rosarian's Year Book," 1887, 1888, and 1889.

other varieties there was little to choose between the three stocks.

I find that roses budded on these stocks flower, as a rule, in the following order. First come those on the Manetti, then those on the briar-cutting, and lastly those on the seedling-briar.

For Tea roses I have found the briar-cutting and seedling-briar excellent stocks. In dry seasons the latter has the advantage, and in wet ones the briar-cutting. The dwarf standard briar also suits many Teas admirably, and some even better than either the seedling or cutting, and has the further advantage of keeping the blooms from getting splashed during heavy rains. It is of course, however, unsuitable for very cold districts, and is less enduring than dwarf briars. The standard briar also suits certain varieties of H.P.s better than any other stock.

The question of stocks is a more complicated one than would at first appear, for in order to obtain the best results the soil must not only suit the stock, but the rose budded on it must work harmoniously with that stock. The character of the subsoil has also almost as important an influence as the surface soil. I may state in passing that there are a few kinds of H.P.s which refuse to grow with me at all on any of the dwarf stocks I have mentioned.

I had intended to touch on the subject of soils and their suitability to different stocks, but have thought it advisable, on more mature consideration, to confine myself entirely to a simple statement of my own experiences; for in discussing a matter of this kind, I think you will all agree with me that one grain of fact is worth any number of pounds of theory. My experiments have, I trust, proved useful as far as they have gone. I can only regret now that they could not be carried out on a larger scale. I am pleased, however, to hear from Messrs. Cocker, of Aberdeen, that they have during the last few years been testing stocks on similar lines to my own, and that they have arrived at some very interesting results, which will appear in the returns recently sent in to this Society.* If other nurserymen and amateurs in different parts of the Kingdom would only follow their excellent example, we should then at no very distant date be in a position to arrive at some more definite and satisfactory conclusions than in the present state of our knowledge is possible.

* *Vide* p. 298.

ROSES SINCE 1860.

By Mr. Geo. Paul, F.R.H.S.

The period 1860 to 1889 may be fairly called the era of the Hybrid Perpetuals and Teas.

One hundred varieties winning the most valuable first prize in 1857 are thus divided—

11	Gallicas
9	Hybrid Chinas
1	Provence
1	Damask
1	Alba
1	China, Mrs. Bosanquet
12	Bourbons
54	Hybrid Perpetuals
10	Teas
100	

The largest proportion were Hybrid Perpetuals (H.P.), but of all these kinds (referring to their names) only one would be shown to-day on a prize stand, viz., General Jacqueminot.

Jules Margottin and Laelia are still in catalogues.

The ten Teas are still grown and shown, showing that, great as has been the progress in Teas, it is in the Hybrids that the greatest gains have been won.

It was in the autumn of 1859 that the new H.P. roses, which have held their own since, began to appear—some the produce of the free-seeding General Jacqueminot, others the first of those H.P.s with distinct traces of Tea Rose blood, Sénateur Vaisse and Madame Crapelet representing the first, Victor Verdier and Mademoiselle Bonnaire the second class.

1861 was, as occasionally happens, a year when good roses came in numbers. It was "Charles Lefebvre's" year. This variety established its reputation directly—my budding note being, "very good desirable colour."

Duc de Rohan is marked "good." Louise Darzens, the first of the Hybrids with Noisette blood, is noted as "the advance of the year." François Louvat, Madame Charles Wood, Olivier

Delhomme, Maurice Bernardin, and Prince Camille de Rohan are all fine roses now. Beauty of Waltham, one of the earliest of the red English-raised roses, was of this year, to be followed in 1862 by John Hopper, and in the spring of 1863 the seed-bed companion of Beauty of Waltham, our Lord Clyde.

1863 gave us our freest dark roses, Madame Victor Verdier and Pierre Notting—also that fine rose on the briar, La Duchesse de Morny.

1864 differs in bringing specially bright roses—Dr. Andry, perhaps the best red rose we have, Duke of Wellington, Xavier Olibo, and Duchesse de Caylus—all Jacqueminot seedlings. Of the Jules Margottin race, we have Marguerite de St. Amand and Princess Mary, but the year's special product was the discovery at Montauban of Maréchal Niel.

1865 was "Alfred Colomb's" year—perhaps Lacharme's finest H.P. rose. Marie Rady, Camille Bernardin, and Fisher Holmes almost complete our collection of red roses.

1866, Annie Wood, Horace Vernet, Mrs. Geo. Paul, Mons. Noman, and Paul Verdier.

Of 1867 and spring of 1868, seven years after "Charles Lefebvre's" year, I naturally think highly, as in that season I sent out Duke of Edinburgh, a gain worth winning. Lacharme carried to their utmost his hybrid Noisettes in Boule de Neige; Pernet gave us Baroness Rothschild; Guillot, La France. Miss Ingram was the English rose and made a great sensation. In this year the first break in new Teas also occurred with Jean Pernet and Reine de Portugal.

1868 gave us only Dupuy Jamain, Edouard Morren, Henri Ledechaux, Emily Hausberg, dull hardy flowers, brilliantly followed in

1869 by a long list—Comtesse d'Oxford, Mdlle. Eugénie Verdier, Louis Van Houtte, Marquise de Castellane, and certainly not least amongst roses, Paul Néron.

1870 was the French war year. The first of the climbing H.P. sports appeared with our climbing V. Verdier.

1871 gave us only four first-class Hybrids—Etienne Levet, F. Michelon, Princess Beatrice, and Madame H. Jamain.

1872 was a year of light roses—Madame Lacharme, Marie Cointet, Princess Beatrice; and Teas again advanced with Anna Olivier and Perle de Lyon.

1873, spring, gave us the rose bearing the president's name, S. R. Hole; it appears ten years after its parent, Duke of Edinburgh, thus bearing out Lacharme's dictum, that it is ten years before a rose produces good progeny. Also the first Hybrid Tea, Cheshunt Hybrid, a self-fertilised seedling of Madame de Tartas. Of the French roses, it would be almost a void year but for Captain Christy, the culminating flower of the Victor Verdier race.

1874, but for Lacharme's Comtesse de Serenye, and the distinct Tea, Jean Ducher, would be an English year—John Stuart Mill, Miss Hassard, Star of Waltham, and Wilson Saunders being the survivors.

1875 gave us Duchesse de Vallombrosa, Abel Carrière, Jean Liabaud, and Madame Prosper Laugier; adding in the spring of 1876 our own new English roses, Duke of Connaught and Sultan of Zanzibar, and Mr. Turner's Mrs. Baker and Oxonian.

1876 to 1879 were years of dearth. We note only: 1876, Magna Charta and John Bright; 1877, Emily Laxton, A. K. Williams; 1878, Laxton's Charles Darwin, Turner's Harrison Weir; 1879, Postan's Duchess of Bedford and Countess of Rosebery, and Mitchell's Wm. Warden, mark it as an English year. No first-class Perpetuals came from France.

In 1880 Duke of Teck, Glory of Cheshunt, Dr. Hogg, François Levet; with Tea, F. Krüger.

1881, U. Brunner, V. Bouyer, George Baker, Pride of Waltham.

1882, Lady Mary Fitzwilliam, Heinrich Schultheis, Queen of Queens, Merveille de Lyon.

1883, Alphonse Soupert, Eclair, Ella Gordon; Teas, Sunset, and Madame de Watteville.

From 1884 to now—a semi-decade of but few Perpetuals, as if about that date the limit of expansion had been obtained—we note Victor Hugo, Gloire Lyonnaise, and the English Madame N. Néruda, Charles Lamb, Bennett's noble Her Majesty, and Madame Henry Pereire as amongst the few really good.

Did we then about 1879, after twenty years' work, reach the limits of the class of Hybrid Perpetuals? Well, I almost think so on the established and laid-down lines, but if a departure in the way of stronger habit, greater floriferousness, better form, and active flowering qualities be sought for and found, the class may be continued further. For instance, there is no red Perpetual with form and habit like La France—we still want red roses growing vigorously as lilacs, and there is no limit to a proportionate increase in size. One can point to the good work being done by English raisers, who have during these thirty years certainly held their own; and of roses of the last year or two we can point with pride to such as Her Majesty, Earl of Dufferin, Mrs. John Laing, and Silver Queen as amongst the best in any group.

But what about the Teas? Prior to 1860 they numbered seventy to eighty in the catalogues; the ten or twelve show varieties, with the addition of a few decorative sorts, such as Abricote, Canary, Safrano, and Madame de St. Joseph, were alone worth growing, the rest were mere names. The class has become a large one since then, developing almost a separate family of Dijon Teas, of which Bouquet d'Or, Belle Lyonnaise (1869), Madame Berard (1870), Gloire de Bourdeaux (1861), and Madame Eugénie Verdier (1882) are the types, with intermediate shades and colours.

The Show Teas received an addition in 1860—Boule d'Or. None that would stay came until the advent of Madame Margottin and Mons. Furtadot in 1866.

1867 gave us Jean Pernet and Reine de Portugal.

1868, Adrienne Christophle and Marie Sisley.

1869, Catherine Mermet and Belle Lyonnaise.

1871 was one of the best Tea years with Marie Van Houtte, Souvenir dé Paul Néron, and Comtesse de Nadaillac.

1872, Anna Olivier and Perle de Lyon.

1874, Jean Ducher, Perle des Jardins, and Marie Guillot.

1875, Marquise de Sanima, Souvenir de Madame Pernet.

1876, Comtesse de Riza du Parc, and in 1877 Madame Lambard.

1878 was very rich with Innocente Pirola, Jules Finger (1879), and Francisca Krüger (1880).

1881, Etoile de Lyon and Madame Cusin.

1882, Edith Gifford and Souvenir de Thérèse Levet.

1883, Madame de Watteville and Sunset.

1884, Souvenir de Gabrielle Drevet.

1886, Luciole and The Bride.

1887, Madame Hoste, Princesse de Sagan.

1888, E. Brownlow and Princess Beatrice.

An average in the 21 years, 1866 to 1887, of two per year added to the Show Teas, raising the class numerically to nearly three times its number since 1860.

There is little doubt the Teas will separate into the Dijon and Show Teas, the former taking all the tall climbing sorts, the latter the dwarf, finely-shaped flowers. Decorative Teas have had added Ma Capucine and others; but they will only last until a few double flowers of the same colours are added.

The class of Hybrid Teas does not seem to have made real advance. After Cheshunt Hybrid came in Reine Marie Henriette, and then some double climbing roses from Nabonnand, as Reine Olga de Würtemberg and Marie Lavallée. Camoens and Bennett's Grace Darling are beautiful free-flowering additions likely to continue.

I may add that I do not class with them Lady Mary Fitzwilliam, Lady Alice, Madame G. Caillot, or Madame Joseph Desbois, in which the Perpetual seems to predominate; their very dwarf habits do not add to their probability of lasting.

Rugosas have advanced, to the white and cream having been added single rose colours; and in 1881 the semi-double Comte d'Epremesnil, which has not lost the free fruiting power of the family; and in 1887 the double white Madame Geo. Bruant, a reputed Tea Hybrid, beautiful in any case.

The dwarf Polyanthas, flowering in autumn, are entirely new; they originated, I believe, in M. Sisley's or in M. Guillot's garden at Lyons, and are evidently Teas hybridised with the single Polyantha, Ma Pâquerette (Guillot), about 1877; Anne de Montravel followed, 1879; Mignonette and Madame C. Brunner, 1881; Perle d'Or (the yellow), 1883; Gloire des Polyanthes, 1887. These are the best of the dwarf sorts, but some climbing kinds are becoming perpetual; large flowers were secured, and Mr. Girdlestone and others have suggested that a hardy race of Hybrid Teas may be won from this class.

Mosses have made but little progress. Moreau has gained the fine white Blanche Moreau. A pretty miniature is Little Gem. Moreau has raised some others which are said to have passed into English hands for distribution.

Noisettes have grown in number but little: William Allen Richardson and L'Ideale (of 1888), with perhaps the addition of some of Nabonnand's Hybrids of this and last year.

Hybrid Bourbons gain in Madame Isaac Pereire (1880), a probably prolific parent of a grand new race of large autumn roses.

The total gains in all classes during the 30 years are great. They are the Hybrid Perpetuals, virtually perfected; a large and fine class of Teas have been made; two new species have been developed as garden flowers; whilst good culture everywhere is now the rule rather than the exception.

DECORATIVE ROSES.

By Mr. T. W. Girdlestone, F.L.S.

It is a curious thing how few people seem to consider the value or beauty of a rose as a growing plant in the garden. Nearly everyone, when supposed to be describing some particular variety of rose, in reality merely describes an individual blossom. In almost every rose catalogue it is just the same; the individual flower is described, and it is only as a cut flower that its beauty is dilated upon. The reason of this may be easy to find, but hardly the justification. No doubt the rose has always been the most popular of all flowers for cutting for the decoration of our rooms and houses, a position from which it is never likely to be deposed, and from this it has probably come about that the value of the rose is so generally estimated only in its capacity as a cut flower. But this is restricting the Queen of Flowers to a limited monarchy with a vengeance, and it is high time that her right to reign out of doors should be better recognised, and that more attention should be paid to the capabilities of the rose as a decorative garden plant.

One sees sometimes offered in catalogues collections of (say) 100 rose trees in as many varieties; and such a miscellaneous assortment planted all together would certainly not be likely to make an effective rose-bed, nor at all a decorative display; and one is tempted to think that it is from rose-growing of this kind that those who declare roses to be always ineffective and untidy, and deserving only of cultivation in the kitchen garden to supply cut flowers for the house, must have gathered their experience.

A great source of failure in making a decorative display with roses has, undoubtedly, been the frequent and perverse employment, for particular purposes, of varieties utterly unsuited thereto. For instance, the number of roses really suitable for cultivation as standards is comparatively small, yet people persist in attempting to grow all varieties in this form; and when, instead of handsome trees, an army of gawky scarecrows is the result, the unlucky roses are blamed. Similarly, effective rose-pillars can only be made with a limited number of sorts, amongst which few of the ordinary hybrid perpetuals are included; yet who has not seen innumerable attempts made with varieties of this class of which the outcome has been, after unremitting pains on the part of the misguided cultivator, the production of a solitary shoot a foot or two taller than the rest of the plant, which is carefully tied to the stake, and looks as though it were longing to hide behind the great larch post it so vainly essays to cover?

Again, it has often been urged that although roses are gay enough just while they are in full bloom, that afterwards, for the rest of the season, they are dull and unsightly; but, apart from this being only half true, and becoming annually less so, as more and more thoroughly perpetual roses are raised, if the objection were to be admitted in the case of roses, it must apply equally to a great majority of herbaceous and bulbous plants; and our gardens, hardly emancipated from the dreary tyranny of "bedding-out," must again relapse into the inane monotony of ribbon borders and carpet beds, in the latter of which especially the enforced primness of the poor little plants, that are never allowed to grow as they please or to have a leaf awry, is as unnatural as children that never have grubby fingers or rumpled collars. It is said that there are some people so oddly constituted as to dislike children, and so also there must presumably be some folk whose sympathies are so strangely arranged as to cause them to love carpet-bedding; such are not likely to admit the claim of roses to be considered as decorative plants; but it may be hoped that those who are disposed to underrate the attractions of the royal rose in the garden will eventually be found to be in a small and constantly decreasing minority, for it can hardly be doubted that loyalty to the Queen of Flowers in her every capacity will outlive the mere fashion of transferring the patterns of the drawing-room carpet to the flower garden.

There are four ways in which roses may be employed to make a very decorative effect as growing plants in the garden, namely, in beds of dwarf plants; as large isolated bushes or real *tree* standards; for the formation of rose-pillars; and as climbers, whether on walls or over arches, &c.

In planting dwarf roses in beds for the purpose of making an effective display, the great thing to avoid is the employment of too many varieties. If a bed of seventy-two dwarf rose trees is to be planted, half a dozen varieties is ample, the twelve plants of each variety being grouped all together; and these varieties should be selected for their freedom of growth, abundance, and continuity of flowering, handsome foliage, as little liable to mildew as may be; and, most important of all, their sturdy habit and ability to carry their flowers erect, pendulous blooms being necessarily ineffective on the plant. The flowers, moreover, should be substantial and of good quality, capable of enduring sunshine or shower without either being burnt or getting all their petals stuck together.

It is also important that the plants of a particular rose should be planted at the distance apart best suited to the habit of that variety. In old days it was commonly recommended to plant roses three feet apart each way; and, no doubt, when the vigorous hybrid Chinas were the vogue, this amount of space was quite necessary. But there are now so many modern varieties, such as the races sprung from Victor Verdier and Baroness Rothschild, which, although vigorous enough in the sense of possessing abundant vitality, make such compact sturdy growth, that to make the best display they should not be planted much more than a foot apart. Of course, some of the modern roses are as vigorous and strong in growth as many of the old sorts, and these will need to be planted at greater distances apart; but if the distance be carefully proportioned to the habit of the variety, and a dozen or more plants of each variety employed be grouped together, there will be little fear of the display of bloom being considered ineffective, or of rose-beds so planted not being decorative.

The cultivation for several years of almost every variety of rose at all generally grown in this country has resulted in the selection of the following kinds as the best suited for planting in beds, in groups or masses, for the purpose of producing a decorative display in the garden.

Varieties of which the plants should stand about 1 *foot apart:*—Baroness Rothschild, White Baroness, Merveille de Lyon, Marquise de Castellane, Earl of Pembroke, Alphonse Soupert, Marie Finger, Caroline Swailes, Mrs. Baker, Hippolyte Jamain, Captain Christy, Madame Bois, Marguerite de Roman.

Varieties of which the plants should stand about 1½ *feet apart:*—Cannes la Coquette, a flesh-coloured seedling from La France, and one of the most charming and useful of roses whether for massing, for exhibition, or for cut flowers; Alfred K. Williams, Comtesse de Paris (Leveque, 1882), a very pretty rose-colour, immensely free and perpetual; Viscountess Folkestone, Annie Laxton, Duchesse de Vallombrosa, Pride of Waltham, Kronprinzessin Victoria, Laurette Messimy, a China or Hybrid Tea of the most vivid and lovely rose-colour; Heinrich Schultheis, Lady Helen Stewart, Suzanne-Marie Rodocanachi, Henri Ledechaux, Sophie Fropot, and, of summer roses, Rosa Mundi, the brightest and best worth growing of all the striped roses, and commonly, though wrongly, called "York and Lancaster," and the Scotch roses in variety.

Varieties of which the plants should stand about 2 *feet apart:*—Madame Gabriel Luizet, Charles Lefebvre, Anna Alexieff, Prefet Limbourg, a most useful dark crimson rose of great freedom and effect; Boule de Neige, Madame Nachury, La France, Ulrich Brunner, Jules Margottin, and his lovely daughter Violette Bouyer, freest and most charming of white Hybrid Perpetuals; John Hopper, Julie Touvais, a very early and most distinct and attractive rose, far too little cultivated, and Gloire Lyonnaise, a very beautiful rose both in plant and flower, and making always a most striking group.

It will probably have been noticed that with half a dozen exceptions all the roses best adapted for massing to make an effective display in the garden are also among the best roses for exhibition, and the more they are cultivated *as if* with a view to producing exhibition blooms, the more decorative they will be. The system of pegging down is not recommended, the only roses with which its employment has been attended with complete success being some of the very vigorous mosses, such as Lanei, Captain Ingram, &c. The plants should be fairly hard pruned, liberally cultivated, and vigorously disbudded; then there will be a magnificent and effective display of bloom.

If the beds are large enough to admit of it, they may be very well margined or fronted with groups of the ever-blooming miniature Polyantha roses, of which the best are Mignonette and Gloire des Polyanthes, pinks; Anne-Marie de Montravel and Ma Pâquerette, whites; and Perle d'Or and Golden Fairy, orange-yellow.

The best Tea-scented Roses for massing—that is to say, the varieties that can most certainly be relied on to be effective in any season—are Marie Van Houtte, Madame Lambard, Hon. Edith Gifford, Comtesse de Panisse, a very handsome and reliable Tea that has been unaccountably overlooked by exhibitors; Anna Olivier, Madame Charles, Madame Chedane Guinoisseau, loveliest of yellow buds; Madame Hoste, most free and constant, a great acquisition, which may also be said of Ethel Brownlow; Narcisse, Souvenir de Gabrielle Drevet, Princesse de Sagan, a rich velvety maroon-crimson Tea, lacking size and fulness for exhibition, but ever-blooming and most effective in the garden; R. Indica (Lowe), a lovely single red Tea, of which a group of dwarf plants present a charming appearance throughout the entire season; and Jean Ducher, when the weather is not wet and cold.

To obtain large isolated bushes and genuine tree standards, the one thing necessary is the employment of suitable varieties. Of these, the best are Anna Alexieff, Madame Alfred Carrière, Prefet Limbourg, Marie Van Houtte, Madame Perny, Madame Gabriel Luizet, Glory of Cheshunt, Madame Nachury, Jules Margottin; and of summer-flowering roses, Persian Yellow, Harrisonii, White Provence, Chênédolle, Celestial, a rose similar to, but of far greater beauty than, Maiden's Blush, and the Double Marbled Sweet Briar; of these, the first ten varieties named make especially fine large-headed standards.

A Pillar-rose, so called, and a Rose-pillar worthy of the name, are not of necessity synonymous. The requirements in a variety to make a good rose-pillar are, that it should be very vigorous but not too long and rampant a climber, very free flowering—perpetual if possible—with handsome and abundant foliage, and a hardy constitution. The roses that make the finest pillars will generally do so from a single plant, but of some varieties it is frequently a good plan to employ two or even three plants at the base of each post for the better formation of a first-rate rose-pillar. The best roses for pillars are also the best for covering fences of from four to eight feet high, and for either purpose, were it only an autumnal, Madame Plantier would be an ideal variety. As it is, although it flowers but once a year, it makes a more beautiful pillar than almost any other rose, for its invariable profusion of bloom and the pure whiteness of its flowers, its hardiness and vigorous bushy habit, present all the qualities best adapted to the formation of a perfect rose-pillar with the sole exception of not being perpetual. In addition to Madame Plantier, the following varieties are also first-rate roses for the purpose :—Ophirie, a delightful coppery-orange noisette, making a pillar of extreme beauty; Madame Alfred Carrière, whose large creamy white flowers have a most delicious fragrance ; Bouquet d'Or, and Rêve d'Or, both with the additional charm of conspicuously beautiful foliage ; Climbing Captain Christy, the freest and most valuable of all these "climbing" sports; Max Singer, a useful hybrid multiflora with well-formed cherry-red flowers of good size continuously produced in trusses of from three to seven blooms, in spite of the curious fact that it was described when sent out by the raiser Lacharme as "non-perpetual, and producing solitary flowers ;" Bardou Job, an improved Gloire des Rosomanes, with very large semi-double deep crimson flowers with darker shades; the summer roses, Blairii No. 2, and Souvenir de Pierre Dupuy, and Rosa macrantha, one of the most beautiful of all the single roses.

On climbing roses grown against high walls and houses, or over arches of considerable span, there is not much to be said, except to urge once more the employment only of varieties suited to the purpose and to the position they are to fill. It is not wise, for the sole reason that there is a blank wall or the bare side of a house, to plant against it Maréchal Niel, or the tender climbing Devoniensis, without any regard to aspect, soil, or climate. There are situations in abundance where such roses will flourish in all their beauty, but to consider it necessary to attempt to grow Maréchal Niel in circumstances under which only an ineffective apology for a plant can be produced, merely because it has the reputation of being, when at its best, the most superb yellow rose as well as the grandest climber in the world, is absurd, and involves a waste of time and energy which, if only applied to the cultivation of roses adapted to less favourable surroundings, would at once result in a decorative display capable of affording the keenest pleasure. In fact, it is the case, heretical as it may be to state it, that in spite of the unsurpassed beauty of perfect individual flowers of Maréchal Niel, it is less decorative as a climber, even when fairly well grown, than many of the following roses:—William Allen Richardson, Reine Marie Henriette, Reine Olga de Würtemberg, a magnificent climber, very perpetual, producing bright crimson flowers, and deserving of very extended cultivation; Madame Berard, Bouquet d'Or, Emilie Dupuy, Aimée Vibert, Celine Forestier, Lamarque, Princesse de Nassau (musk), Madame Trifle, and the summer roses, Fortune's Yellow, Félicité-Perpétue, Laure Davoust, Splendens, Ruga, the Garland, Alice Gray, Flora, Claire Jacquier, the single Rosa multiflora (syn. polyantha, figured as a climber in the *Gardeners' Chronicle* for November 26, 1887), Rosa mult. grandiflora, and the deliciously fragrant Rosa Brunonis (syn. moschata, Crépin).

Mention has been made of some of the most decorative single roses in the selections given of the best varieties for certain purposes; but there are a few others which ought to be included in every rose garden. The rugosa roses are now so well known that it is not necessary to do more than to insist in passing on the exceeding beauty of the white form; but among those far too rarely seen are the Austrian briars Rosa lutea, the yellowest rose in the world, and its wonderful scarlet variety, Rosa punicea; Rosa rubrifolia, with its red leaves, red stems, red everything, including its immense clusters of heps in autumn; Rosa lucida, also beautiful in fruit at the end of the season, as in flower and glossy leafage during the summer; Rosa bracteata, the very distinct Macartney rose; Rosa damascena, the crimson damask; Rosa Beggeriana, the starry white rose from Afghanistan, ever-blooming, and producing the most brilliant little heps imaginable; and last, but not least, a garden variety classed as a hybrid sweet briar under the name of Hebe's Lip, beautiful exceedingly, having large substantial creamy white petals with a picotee edge of purple. Nearly all these single roses only require to be put into the ground and left to themselves to thrive and produce their myriad flowers and fruits, so that for the amount of time and attention that they claim they are very remunerative decoration.

The subject of decorative roses then may be briefly summed up as follows:

Only employ for particular purposes varieties well adapted thereto.

In the case of groups or masses of dwarf roses in beds—

(1) Plant many plants of few varieties;
(2) Cultivate as highly, prune, disbud, and keep clear from insects, &c., as if every bloom were to be required for exhibition.

Then a display of bloom will ensue, well deserving of the epithet decorative, and likely to be maintained more or less throughout the season.

ON *ROSA POLYANTHA*, SIEB. & ZUCC., AS A STOCK FOR BUDDING.

By M. Viviand-Morel, of Lyons.

Rosa polyantha, Sieb. & Zucc., was introduced into cultivation in Europe about the year 1860. It was named *R. thyrsiflora* by Leroy, *R. intermedia* by Carrière, and *R. Vichura* by Karl Koch. A little later on it was discovered that the newly introduced species had been previously made the object of study by Siebold and Zuccarini, who had conferred upon it the name which it bears in the title of this note, but several rhodologists, amongst others the eminent M. F. Crépin, think it referable purely and simply to the *R. multiflora*, Thunb., known only up to that time in gardens in the double-flowered condition, and of which this form was thought to be the type bearing single flowers, or at least a variety of this type. [See p. 218.]

As I am desirous simply of calling the attention of English rosarians and amateurs to the value of the *polyantha* rose as a stock on which to bud other garden roses, I shall in this note only speak on this question, and I will leave others to determine if *Rosa polyantha* is a specific type or a mere variety.

I shall for the present, for the sake of convenience, use the name of *Rosa polyantha*, as by that title this plant is universally known. In 1880 a skilful horticulturist of Lyons, M. Alegatière, called the attention of his colleagues to the rose we are now considering. He pointed out to them that the seeds germinate, without being stratified, in the space of a month, and if carefully treated the seedlings of this species can be budded in the same year as that in which they originated. This was in itself a valuable property, and one which was confirmed by successive trials by many experimenters, amongst others by the Secretary of the Horticultural Society of Dammartin, who published a note on this subject in the Bulletin of that Society. This gentleman said: "Some seeds sown in a bed on the 14th March, 1883, germinated on the 15th April following, and those of them which were budded on 2nd July of the same year developed quite sturdy stems."

M. Alegatière also budded some roses on root-stocks of *Rosa polyantha*, and from these experiments he obtained satisfactory results, which he also communicated to the members of the Association Horticole Lyonnaise. The particulars furnished by M. Alegatière induced several rosarians of Lyons to try this experiment for themselves. I find related in the minutes of the meeting held January 17, 1885, in the Palais du Commerce at Lyons, by the Association Horticole Lyonnaise, the following account, under the heading, "Plants Exhibited"——: "by M. Bernaix, rose-grower at Lyons, a specimen of H.P. Princess of Cambridge and another H.P. La Reine. These two varieties had been budded on seedling *Rosa polyantha*, in the same way as that in which roses are usually budded on the seedling briar. The specimens shown were strong, vigorous, and well-rooted; the roots being provided with fibrous branches.

"M. Bernaix said that roses budded on *polyantha* are superior for the purposes of pot-cultivation to those budded on the briar, and this method of culture will also be very serviceable when applied to forced roses. The plants so treated push sooner, and flower 10 to 15 days earlier than those budded on the briar; they have also this advantage, that they do not throw up suckers; teas will succeed quite as well as H.P.'s.

"M. Bernaix also pointed out that the seeds sown in the month of March germinate the same year; the specimens exhibited having been sown in February, and budded in September. This rose is not at all particular as to soil. The seedlings have been raised in soil not trenched, but merely dug with the spade to a depth of about 18 inches. The position of the ground was along a south wall, and, as may be seen by the specimens produced, they are well adapted to this method of cultivation, have become strong and vigorous, and sent out numerous roots. This is therefore a subject meriting close investigation and careful study."

After hearing these statements, I myself made experiments, and I may be permitted to give the following extracts from a report which I published in February 1887 in the *Lyon Horticole*:—"Why for budding purposes abandon the briar, the value of the seedlings of which is well known, and use in preference a foreign species, the seeds of which are scarce, and of which very few growers have any intimate knowledge? We will answer these two questions.

"Firstly. The varieties of roses budded on *R. polyantha* come into growth earlier and are more easily forced than those budded on the briar.

"Secondly. The roots of *R. polyantha* are much branched, tufted, but little inclined to be tap-rooted; the plants are therefore very suitable for pot-cultivation; strong plants can be raised in comparatively small pots. This is more difficult with varieties budded on the briar.

"Thirdly. *R. polyantha* does not throw up suckers.

"Fourthly. The seeds of *R. polyantha* germinate the year they are sown, and stratification is not a necessary preliminary; seeds sown in February germinate in March; sown in March, they germinate in April.

"We may add that some experienced rose-growers have budded in September plants of *R. polyantha* sown the same year. This may be easily done with care, but space here will not allow me to enter into details; suffice it to say that *R. polyantha* should be considered as an ordinary briar, and treated in the same way.

"The only important objection which can be raised against the use of this species, as a stock for budding, is that the seedlings are difficult to procure. This objection is at present rather a serious one, but as the rose in question is very fertile, in a few years the seeds will be offered for sale at very low prices."

Before concluding, I may be allowed still another quotation. This records the success of one of the most able rose-growers of our city, who grows a great number of roses budded on *R. polyantha*, specially destined for forcing purposes. "In 1886

Alex. Bernaix showed at Lyons a group of roses all of which had been budded on *R. polyantha*. Their healthy growth and their numerous much-branched roots attracted my attention, as well as that of the many visitors. As M. Bernaix mentions among the merits of this system of budding that it is adapted to pot-culture and for hastening the forcing of roses, I resolved to test the accuracy of this assertion. I bought a great number of roses, budded some on *R. polyantha* and some on *R. canina*. I divided them into two sets and put them on the same day in the same soil, in pots of the same size. I submitted them all to exactly similar treatment in all ways. I may add that they were all placed in one house, and kept constantly at a uniform temperature. I should also say that I employed only one variety of rose for this experiment, the well-known Etoile de Lyon.

"Now this is what happened: The roses budded on *R. polyantha* gave twice as many blooms as those budded on *R. canina*, and furthermore they were fifteen days in advance of the others. Certainly, such an experiment, made on a large scale, deserves consideration. If the same results are produced with all varieties of roses, henceforward when forcing roses I shall only use varieties budded on *polyantha;* and I do not need to be a very far-sighted prophet to see and to say that, in spite of custom, *R. polyantha* is bound to completely take the place of *R. canina* for the purpose of increasing roses for cultivating in pots. It is only a question of time.

"I think it will be useful to my brother rosarians to let them know the results of my experiments, and I thank M. Alexandre Bernaix for having given me the opportunity of making these trials, of completing them successfully, and especially at the same time of realising a great profit; for it is certain that roses can be forced in this way at half the cost of the old method.—B. PECOUD, Rose and Lilac grower, Lyons.

"*N. B.*—The plants of the rose Etoile de Lyon, budded on *polyantha*, had on an average ten to fifteen flowers; those budded on *canina* bore five to seven."

This question of budding garden roses on *R. polyantha* has passed out of the experimental stage, and should be adopted by practitioners. I especially invite English rosarians and amateurs to make experiments, to ascertain if the climate of England is as favourable to this method of cultivating roses as is that of Lyons.

ON ROSA CANINA VAR. FROM THE URAL MOUNTAINS.

DR. E. VON REGEL, the Director of the Imperial Botanic Garden, St. Petersburg, exhibited a plant of a rose from the Ural Mountains, supposed to be a form of *Rosa canina*. From the locality whence it comes, and the circumstance that it is destitute of spines, it is considered that it will be of value as a stock. The plant was received some weeks before the Congress, and was sent to Chiswick to be grown.

DISCUSSION.

Mr. T. B. HALL, of Larchwood, Rock Ferry, proposed a vote of thanks to the Chairman. He said he thought many of them would never have thought of roses had it not been for Dean Hole's book, and many would scarcely have exhibited had it not been for the Dean's exertions in that direction many years ago. He had just returned from a tour round the world, and wherever roses were known the name of Dean Hole was known and loved.

Mr. HENRY M. ARDERNE, of the Botanic Gardens, Capetown, and holder for many years of Champion Silver Cup for Roses, South Africa, seconded the motion, and spoke of the appreciation there of Dean Hole's book.

The PRESIDENT heartily thanked the meeting for the vote, and the proceedings were then adjourned until the following day.

BOTANICAL SECTION.—*July* 3.

THE second day of the Conference was devoted chiefly to the Botany of the Rose, and was opened by Mr. J. G. BAKER, F.R.S., F.R.H.S., who said :—

As the time at our disposal is short, and there are several papers of great importance for us to read and discuss, I shall compress what I have to say in the way of a general introduction to our proceedings this afternoon into as brief a compass as possible.

Biological significance of a Rose Show.—What I am specially wishful to lay stress upon, as the key note of our discussions this afternoon, is the great interest there is in a Rose Show from a biological point of view. Cultivators have taken hold of plastic wild types, and working at them patiently through the long centuries, have moulded them by gradual stages of transition till in many cases they have assumed forms very remote from the wild originals. I do not think that anything in flower-development can well be more striking and wonderful than the change that has been wrought in the Rose. Three-quarters of the cultivated Roses we see in this exhibition have been evolved by horticulture out of two wild types. The Rose which cultivators mainly worked at up to the end of the last century, the Rose of the classical and mediæval poets and painters, was *Rosa gallica*. This grows wild abundantly in the south of Europe, and from this originated the French Roses, the Damask Roses, the Provence Roses, and the Pompons, and by hybridisation with the Dog Rose, the well-known *Rosa alba*, and probably also *Rosa centifolia*. I have had copies made for exhibition of the rough coloured drawings of the cultivated Roses contained in the 1620 edition of Swertius' "Florilegium." Just a hundred years ago, in 1789, *Rosa indica* was introduced from China, and this brought about in Rose cultivation as great a change as the French revolution caused in matters social and political. From *Rosa indica* have sprung the Monthly Roses, the Tea Roses, the Fairy Roses, and by hybridisation, the Bourbons, Boursaults, and Noisettes. From these two types, *gallica* and *indica*, have sprung at least three-quarters of the garden Roses. I have had two drawings made to show the wild originals of the two species, and I ask you to get these two types well fixed in your minds. I should not like anyone to go away from this Conference without realising fully and clearly what the labours of cultivators of generations past and present have done for us in developing the myriad beautiful forms of this "queen of flowers" which we now see around us. It is only very lately that we have received at Kew, for the first time, wild specimens of *Rosa indica*, gathered by our indefatigable correspondent, Dr. Henry, who during the last few years has sent us many thousand species of plants from the western provinces of China, a large number of which have proved entirely new to science. I am well aware that what Mr. Paul and our other rosarians are wanting to ascertain from the botanists at this Conference, is, which other of the wild types are most suitable for them to work upon in order to develop fine new garden forms. This is a very interesting question for discussion, but as it will be raised in connection both with Dr. King's and Professor Crépin's papers, I will not say anything further upon it now.

Wild Rose-types and the geographical distribution of the genus.—It is very difficult in the wild Roses to draw the line of demarcation between species and varieties, and no doubt the wild species hybridise naturally to some extent. Many of the wild species run through a wide range of variation. Our common English Dog Rose has not been operated upon under cultivation to any appreciable extent, and yet, twenty years ago, when I wrote a monograph of the British Roses, I had to separate and name no less than thirty varieties of it, varieties that in their typical form could be easily distinguished and characterised, but which are all linked with one another in our English woods and hedges by gradual intermediate stages of transition. Authorities differ widely, but we may say safely that there are at least fifty clearly distinguishable species in the genus. *Rosa*, like *Lilium*, is a genus that is absolutely characteristic of the north temperate zone. It is spread throughout the north temperate zone in both hemispheres, with out-wandering representatives in the mountains of Abyssinia, Mexico, and the Neilgherries. But all the roses of Australia, New Zealand, the Cape, and South temperate America are carried there by cultivation. We may roughly define five distinct Rose regions, viz.:—1st, Europe, including North Africa and Western Asia; 2nd, Siberia, with Central Asia; 3rd, China, with Japan; 4th, India; 5th, North America. Most of the fifty species are confined to one of these five regions.

Organs that furnish differential characters for groups and species.—We have before us a valuable paper in connection with which the general subject of Rose-classification can be discussed. The genus is one of the most distinct in the whole vegetable kingdom. The great calyx-tube, with many one-seeded bony fruits lying loosely inside it, growing red and fleshy as it matures, is quite unlike that of any other of the seventy genera of the natural order to which *Rosa* gives a name. Its nearest familiar allies are *Agrimonia* and *Alchemilla*, in which the carpels are one or very few in number, and the calyx-tube does not grow red and fleshy. By way of introduction to Professor Crépin's paper I will say only a few words about the range of character which the different organs furnish.

1. *Habit of growth.*—Contrast the long scrambling stems of *R. arvensis*, or *Banksiæ*, with the arch springing from the erect pillar of *canina* or *indica* and the short, stiffly erect stems of *gallica* and *villosa*.

2. *Armature.*—Prickles vary in shape, from the parrot's-beak prickle of *sinica* and *canina* to the straight, slender prickle of *spinosissima* and *villosa*. In some species the principal prickles are in regular pairs at the base of the leaf; in some they are uniform in size, but scattered irregularly, whilst in other species they are crowded and very unequal. There is no hard and sharp line of demarcation between *aculei*, *aciculi*, and gland-tipped *setæ*. In some species the peduncles and pedicels are naked, and in others beset with aciculi and setæ. One of the best characters by which to distinguish the garden Roses that are descended from *gallica* from those that are descended from *indica* is the irregularity of the prickles of the former.

Stipules often furnish excellent characters. For instance, in *multiflora* they are deeply fimbriated. *R. Banksiæ* differs from all the other Roses in the stipules not being adnate to the base of the petiole, and consequently deciduous.

Leaves.—One species, often regarded as a distinct genus, has simple leaves. *R. sinica* has three leaflets. The usual number is five or seven. In *microphylla* they get up to eleven or thirteen. They vary of course greatly in texture, shape, toothing, and vestiture.

Inflorescence and bracts.—There is a good deal of character in bracts and inflorescence. In some species the flowers are essentially solitary. In *R. Banksiæ* they are umbellate, and the pedicels have no bracts. In the other species the inflorescence is a few- or many-flowered corymbose cyme.

Parts of the flower.—The normal symmetry is pentamerous. The Indian *R. sericea* is typically tetramerous, and was therefore called *Rosa tetrapetala* by Royle.

Calyx.—There is a great deal of character in the calyx. The calyx-tube differs greatly in shape. Sometimes, often even in the same species, it is naked, sometimes bristly. The calyx segments differ widely in character. Sometimes they are entire, sometimes copiously pinnatifid, sometimes produced into long leafy points. In some species they fall as soon as the tube begins to turn red, in others they are subpersistent, and in others they remain till the tube turns perfectly red and pulpy. In our wild Roses, *canina*, *tomentosa*, and *mollis* are examples of the three types.

Styles.—Finally, there are two plans of style-structures. In most of the species there is no cohesion in the styles, and they only reach to the throat of the calyx-tube ; but in the *Systylæ* they protrude beyond the disk and are loosely glued together in a column.

The characters in which groups are founded have been mainly taken from styles, stipules, and prickles.

MODERN ROSES AND HYBRIDISATION.

By the Rt. Hon. LORD PENZANCE.

IT is about seventy or eighty years since the Dutch began that system of Rose-culture which has yielded us by far the greater number of the beautiful varieties which decorate our gardens at the present day, the propagation of the Rose from seed. In their steps quickly followed the French. Monsieur Descemets and Monsieur Vibert in the immediate neighbourhood of Paris pursued the new culture with ardour, and their labours received a fresh impulse from the extended operations of Monsieur Dupont under the immediate patronage and the active sympathy of the Empress Josephine at Malmaison. Since that time this interesting culture has never flagged; and we have arrived at a state of things in which every succeeding year produces, at the hands of those who sow Rose seed, some fifty or sixty new Roses from France, as well as a smaller contingent from the labours of our own countrymen. If the mere acquisition of new varieties were the sole thing to be desired, we might rest and be thankful, well content with a supply which gives us novelties as fast, or faster than we can make up our minds to cast away old favourites to make room for them.

But to my mind this is by no means the only thing to be desired. Out of these yearly little strangers, how many are there which present any new and distinctive features distinguishing them from those that preceded them? Here and there, no doubt, an individual plant falls from the full lap of Nature, which delights the lover of the Rose, such as "La France" or "Maréchal Niel," and fills us with the hope of greater and better things. But the hope is delusive and melts away. The next year and the next bring with them the usual crop of the usual types—here and there a Rose of admirable quality, but formed on the old models, drawn on the old lines, and no one of them of such marked merit that by anything like a general consent it can be pronounced superior to the acquisitions of the past.

If this be a true description of the general quality of our annual crop of novelties, have we any right to console ourselves with the idea that we have achieved increased strength of growth or constitution—increased durability—greater immunity from mildew or other parasites—a more redundant flowering capacity, or what the learned in Rose-culture seem to despise, but what the world at large, and some lovers of the Rose (of whom I confess myself one) set a high value upon—I mean fragrance? I fear not.

On the contrary, I can speak from a recollection of many years, and I think those who cultivated Roses five-and-thirty years ago will admit with me that standard Rose Trees—and it was almost entirely standards that were then in vogue—were far more durable then than they are said to be now. One often hears now of Rose Trees lasting only three or four years, and the loss of them within five years is regarded as not an unusual or unnatural thing. This certainly was not the case at the time to which I have referred.

Then as to autumn flowering—it is the fashion now to put on one side all Roses that cannot call themselves "perpetuals"—and fashion in this, as in all things in which its voice is heard at all, is supreme. But what is this vaunted property of a second blooming really worth?

How many "Hybrid Perpetuals" are there which, in an average year and under average circumstances of culture, can be relied upon to produce—well, say, half-a-dozen healthy blooms in the course of the autumn? Then as to fragrance. I cannot call to mind any rose of modern date (if we except "La France") that can equal the old Cabbage Rose or surpass many of the old summer-flowering varieties; while, on the other hand, there are plenty of new Roses now, and public favourites too, at the head of which I should place the "Baroness Rothschild," which, however beautiful, are absolutely without any scent whatever. Indeed, so little is scent now regarded, that the nurserymen take little notice of it in their catalogues, and at the great Rose exhibitions and contests the possession of a fragrance, however exquisite, is not even accounted a merit.

If we have not gained in these particulars, what have we lost? Now there was, at the time to which I have referred, a class of Roses in general cultivation, very few of the true varieties of which are now to be obtained—I allude to the "Bourbon" Roses. The true Bourbons were certain autumn bloomers—and what is more, their autumn blooms in general surpassed those which they produced in summer.

But they were not large—and though they had a scent, and a very sweet scent too, and were of a hardy constitution, they have not been allowed to survive. What has become of them?

No man has done more than Mr. William Paul of Waltham Cross for the cultivation of the Rose, or so much to render it attractive to the amateur. In my copy of his delightful book "The Rose Garden," which was published in 1848, the list of Bourbons contained the names of one hundred and eighty-eight varieties. They were of all colours, passing from the pure white of "Acidalie" to the beautiful fawn colour of "Madame Angelina," through various grades of rose and crimson to "Margat Jeune," "Madame Margat," "Julie de Fontenelle" and others, and then to the rich crimson and the deeper shades of "Proserpine," "La Quintinie," and "Réveil."

Nothing could exceed the attractive charm of these Roses early on an autumn morning, with their firm, substantial, and evenly disposed petals, and their handsome foliage; but they were not what an old-fashioned gardener in one of Mr. Trollope's novels contemptuously spoke of as "wallopers," and this had been fatal to them. Fashion issued her decree that admiration and enjoyment is only to be had in combination with a certain size, and so the Bourbons have been improved away. The last edition of Mr. Paul's book, that of 1888, can boast only of thirty-three Bourbon names, and of these many have been so crossed with other races that they cease to exhibit their original characteristics.

And why have they thus passed away? Fashion has killed the demand for them. As the yearly batches of new "Hybrid Perpetuals" come into the market, their glories are trumpeted forth in all the floral publications—they shine resplendent at the exhibitions and floral contests—the nurserymen must needs supply the demand which is thus created in a public ever hungry for novelties, and some of the old favourites must necessarily stand aside to give elbow-room to these beautiful swaggering strangers.

To those who can find room in their sense of beauty for the admiration of different forms of it, this loss of an entire race of Roses with their special characteristics is a real loss; and unfortunately they have other losses of a similar kind to deplore. Once the race of Alba Roses, perfectly distinct from all others in the glaucous colour of their foliage, and their delicate tints of pink and white, of which the "Maiden's Blush" is pretty nearly the only one now in cultivation, could boast of many varieties and of many colours. This, however, was a long time ago. But to come down to a much more modern period, what, may I ask, has become of the "Perpetual Damasks," as they have always been called in England, though in France, for some reason which I have never been able to discover, they have always been known as "Portlands"?

They were never a very numerous race, but Mr. Paul's book in 1848 recorded at least eighty-four names. Now their place knows them not; and, unkindest cut of all, Mr. Paul in his last edition, that of 1888, ignores their existence as a separate family altogether, and drafts the once celebrated "Rose du Roi," or "Lee's Perpetual" or "Crimson Perpetual," for it gloried in all three names, into the class of "Hybrid Perpetuals." To many people their chief attraction, I dare say, was their scent, but what a scent!—it is enough to say that it was that of the Eastern Attar of Roses.

While old races have thus been passing away—not varieties, but distinct races, with flowers and a wood, a foliage, and a habit of growth distinctively their own (I do not venture on botanical terms, but speak only in popular language)—while old races then are thus passing away, why is it that no new ones are forthcoming?

How, it may be asked, is it possible that this should be otherwise? Where are we to find a new race of Roses? I answer without hesitation, new races are to be found where the "Noisette Rose" and the "Bourbon" Rose had their origin—in the union of two of the existing races. New races without limit may be yet within our reach. They lie packed away in the unexplored storehouse of Nature, just as the triumphs of the sculptor's art have been said to lie enfolded in the yet unfashioned marble, ready to stand forth at the call of man, and reward the labours of intelligent quest.

Monsieur Vibert, who in 1815 saved the whole of Monsieur Descemets' seedlings from the ravages of the allied armies which then encompassed Paris, by removing them to a distance, was an ardent enthusiast in Rose culture. He cultivated the Rose for profit as a nurseryman, but he has left behind him some essays on the Rose which show him to have been a man of a very intelligent and thoughtful mind, and indeed of no mean literary ability.

This is what he says of the improvement of the Rose:—

"Our knowledge is still in its infancy, and I am strongly convinced that one day for the discovery of varieties of the greatest interest, we shall have to owe more to art than to unassisted nature. The most fortunate, the most expert, will be the man who knows Nature best, and it is less in the caprices of chance than in a profound study of the subject that we should seek the elements of success. It is in the crossing of species of a very opposite character, or of varieties very unlike, that hope is to be found of probable success; departing from the beaten paths, we must study and interrogate Nature with perseverance, and constrain her by force of art to new productions."

Monsieur Vibert was right. I have seen enough myself to believe that there is hardly any limit to the new races which may be produced by cross-breeding, as it is called. And this brings me to the principal object of this paper. The new varieties which are now yearly raised are not, with rare exceptions, the result of the artificial application of the pollen of one plant to the stigmas of another, which is what I mean by cross-breeding or hybridising.

So understood, hybridising is not practised on any systematic and extended scale, either in this country or in France. By far the most able and scientific modern book on the culture of the Rose which I have met with is that published by Monsieur Eugène Forney.

This is his description of the culture of the Rose in France at the present day:—

"People have often tried to provoke hybridisation between two opposite species of plants. The first experiments of this kind were made in Germany in 1820. They obtained in respect of certain plants some remarkable results. As far as the Rose is concerned I am ignorant whether any serious and systematic experiments have been made. Some individuals have tried at times to practise hybridising the Rose by passing lightly over the stigma of one plant a small paint-brush loaded with the pollen of another. But our more successful sowers of Rose seed have abandoned this method, of which the results appeared somewhat doubtful. Some people contented themselves with shaking over a rose a bouquet of roses of a different variety. The most certain results have always been obtained in following the method of selection, that is to say by sowing the seeds of the most remarkable varieties both in form and colour. Roses of the first order are after all very rare in a sowing of seed, and their production is a veritable lottery in which chance plays the principal part."

From various passages in Monsieur Forney's book it is evident that before writing it he consulted the principal Rose-growers in France, and I have little doubt but that this is a fair account of the method by which our new varieties are produced.

There is only one Rose-grower, so far as I know, in this country (I do not speak of amateurs) who has steadfastly pursued the system of artificial crossing, or hybridising, and great has been his reward.

The delicate and exquisite flowers which Mr. Henry Bennett has offered to the public under the now well-known name of "Pedigree Roses," have found a ready appreciation both here and in America at the hands of the learned in such matters, and have not failed also to secure the admiration of the general public.

The work hitherto done then in this direction is but a step on the threshold of Nature's treasury. Those whose patience and perseverance will sustain them in the determination to cross that threshold and search for the reward which she is only too ready to bestow, will find pleasure and excitement enough in the search, even though their labours may not meet with immediate success.

Mr. Bennett's Roses are, I believe, for the most part, derived from the union of the Tea-scented Roses with the "Hybrid Perpetuals." But there are numerous other races quite as well adapted to this treatment—some of them originating in far different climes from ours, but now grown in this country without difficulty or special treatment—and of these many have been cultivated here time out of mind. There is the Macartney Rose, with a foliage of surpassing beauty and a most fragrant flower; the *Rosa camelliæfolia*, with its deep green shining camellia-like leaves, on which no mildew could find a foothold, and no caterpillar could roll into a dormitory. Then there are the Ayrshire and Sempervirens Roses, small indeed of flower, but of growth equipped in seven-leagued boots. The Japanese *Rosa rugosa* too, hardy of constitution, and, when the bloom is over, showy with its scarlet fruit; and lastly, there is our own Sweet Briar, or Eglantine, capable of carrying into any family with which it should mate the dowry of a sweet-smelling leaf and a constitution that defies the ravages of mildew, and the crippling cruelties of frost. That the union of these races, or some of them, with our present beautiful "Hybrid Perpetuals" is possible, I venture to assert. It would be over-sanguine to expect as an immediate result from any such unions, flowers which in size and colour would surpass what we already possess. But strength of constitution—freer habit of growth—the production of clusters in place of triplets or solitary flowers—novelty in foliage and colour, including that of a true yellow—and last, but not least, a variety of exquisite odours—all these may be within the reach of those who will stretch out their hand to grasp them.

The time and trouble which a carefully executed system of hybridising would demand, might well be the dread of the nurseryman, but they should be the attraction of the amateur. It is to the amateurs, then, that I address myself. I offer them a pursuit the interest of which never flags. The constant revelation of new results supplies a pleasurable anxiety which surpasses that of the fishing-rod—if it does not equal that of the lottery. Followed amid the ever fresh delights of the garden, this pursuit groups around itself everything that can charm the senses and tranquillise the mind.

To the young and vigorous it would prove an incentive to manual labour in the open air, after hours perhaps of confinement and a long strain of mental effort. To those whose health and vigour have been over-lavishly expended in the sterner struggles and duties of life, it offers the only species of repose that an active mind can accept—a pleasurable occupation for hand and head, flavoured by the condiments of expectation and hope.

Though I can speak only from an experience of four years of careful work in hybridising, I have seen and done enough to prove beyond question that union among these opposite races is a perfectly practicable thing.

I have no right to expect the addition of many more seasons to my own stock of seedlings; but if life and sufficient health are accorded to me, I hope before long to place in the hands of those who care to tread the ground over which I have travelled, some record of my steps, some details of manipulation, and some conclusions that may help them on their way.

DISCUSSION.

Dr. MASTERS said that Lord Penzance practised what he preached, for he exhibited at a recent meeting of the Society various specimens as follows:—

Sweet Briar fertilised by the pollen of H.P. La Souveraine. Sown November 1885, seedling came up in January 1886.
Sweet Briar fertilised with H.C. William Jesse, came up January 1886.
Sweet Briar fertilised with pollen from H.B. Paul Ricaut.
Sweet Briar fertilised with pollen from H.C. William Jesse.
Luxemburg Moss fertilised with H.P. Princess Christian. Seed sown 1884, came up in February 1885.

His lordship seemed to have completely grasped one of the most important objects which the promoters of the Conference had in view. If gardeners and florists had done so much by mingling two or three, or at the outside, half-a-dozen species, what might they not do if they took more of the 50 or 60 species instead of the two or three? In the future they might get beauties which they did not dream of at present.

Mr. FISH said while they could not use Hybrid Perpetuals as parents they often found pollen amongst them. He did not agree with Lord Penzance's remarks on the Bourbon rose; their perfume was rather curious, but they could not be called sweet roses.

Mr. MAWLEY said they owed a debt to Lord Penzance for his valuable communication. He did not agree with a good deal that was said in it, but it was one of those papers which excited discussion. It was very desirable that they should strike out into new lines, because it would seem that they had reached the end of their tether as regards Hybrid Perpetuals.

Mr. FISH said it was most important that the perfume of the leaves as well as of the flowers should be thought of. If they could get back to the Sweet Briar that end would be accomplished. The improvement of foliage should not be lost sight of.

Lord Penzance's gardener (Mr. BASKETT) said his lordship had been carrying out several experiments in the direction indicated by Mr. Fish.

SKETCH OF A NEW CLASSIFICATION OF ROSES.

By Professor FRANÇOIS CRÉPIN,
Director of the Botanic Garden, Brussels.

THE first attempt to classify the species of the genus Rosa dates from 1818; it is due to A. P. de Candolle. Other proposed schemes of classification were successively published by Lindley (1820), Thory (1820), Trattinick (1823), Seringe (1827), Wallroth (1828), Selbsther (1832), T. Moore (1848), K. Koch (1869), Regel (1877), Baker (1885 and 1889), and Focke (1889).

In our turn we now propose a new classification. We have not the presumption to think that our arrangement is perfect, but we believe that it subdivides the genus in a more natural way than does any former classification.

Addressing ourselves here specially to Rose cultivators, we have not considered it necessary to discuss the principles which have influenced us in grouping the species, nor to enter into arguments as to their relative value.

ROSA, *Tournefort.*

SECT. I.—SYNSTYLÆ, *De Candolle.*

Styles united to each other, *forming a projecting** *column, equalling the stamens* or slightly shorter; *sepals reflexed after flowering, caducous*, the outer ones pinnate, rarely entire; *inflorescence* few- or many-flowered, *with narrow bracts; stipules* adnate, rarely free or nearly free, the *uppermost narrow* ; leaves on the flowering branches 3- 5- 7-foliolate, very rarely 9-foliolate ; *stems sarmentose*, climbing or creeping; prickles hooked, alternate, very rarely geminate.

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* In some species with styles normally included, the styles may *by accident* become projecting, forming a column protruding beyond the neck of the receptacle.

a. *R. microcarpa*, Lindley, 1820 (R. indica, Linnæus, 1753). China.
   R. Colletti, Crépin, 1889.—Burmah.
b. *R. multiflora*, Thunberg, 1781 (R. polyantha, Siebold and Zucc., 1844, non hort.).—China, Japan, Corea, Isles of Formosa and Luzon.
   R. Luciæ, Franch and Rochebr., 1871.—Japan, China.
   R. Wichuraiana, Crépin, 1887.—Japan, China.
   R. tunquinensis, Crépin, 1887.—Tonkin, China.
c. *R. anemonæflora*, Fortune, 1847.—China.
   R. Watsoniana, Crépin, 1887.—Japan.
d. *R. setigera*, Mich., 1803 (R. rubifolia, R. Brown, 1811).—North America.
e. *R. phœnicia*, Boissier, 1849.—Asia-Minor, Syria.
f. *R. moschata*, Herrm., 1762 ; Miller, 1768.—Asia, Abyssinia.
   R. sempervirens, Linnæus, 1753.—Europe, North Africa.
   R. arvensis, Huds., 1762 (R. sylvestris, Herrm., 1762).—Europe.

This section, which is quite natural, may be divided into six subsections.

It has yielded many double-flowered varieties.

R. multiflora, remarkable on account of its many-flowered panicle of white flowers, and its stipules deeply cut like the teeth of a comb, has given origin to varieties with double rose-coloured flowers. Hybridised with *R. indica* or *R. semperflorens*, it has produced a number of varieties to which has been given the improper name of *R. polyantha*. These varieties are perpetual flowering.

R. Luciæ, which will probably not be long before it is distributed in gardens, may play a part similar to that of *R. multiflora*.

R. Wichuraiana, introduced some years ago, will be useful for covering slopes or rocks. Its trailing stems divide into small branches, with small leaves shining as if varnished, and white flowers of average dimensions.

R. anemonæflora, with double flowers, is in cultivation.

It is much to be desired that *R. Watsoniana*, which is a marvel of minuteness and elegance, may be introduced from Japan, where it has been recently discovered.

The Americans have availed themselves of their *R. setigera*, or Prairie Rose, from which they have obtained some double-flowered varieties. If crossed with *R. multiflora*, *R. indica*, and *R. semperflorens*, it would doubtless furnish us with some valuable hybrids. Possibly such crosses have already been made.

The double-flowered varieties of *R. moschata* have been in cultivation for many centuries. The *Noisette* is reputed to be a hybrid between *R. moschata* and some species of the *Indicæ* section. If not already done, crossing the *Musk Rose* with *R. gallica* should be tried.

R. sempervirens and *R. arvensis* have given many double-flowered varieties.

Up to the present time *R. microcarpa* does not appear to have been cultivated in Europe. It is a type to which the attention of Rose-growers may be directed, and they may be able to obtain from it very decorative varieties, worthy rivals to those of *R. multiflora*.

SECT. II.—STYLOSÆ, *Crépin.*

Styles united together, *forming a column very slightly projecting beyond the disc, much shorter than the stamens; sepals reflexed after flowering, caducous*, the outermost pinnate; *inflorescence* many-flowered, with *narrow* or slightly dilated *bracts; stipules* adnate, the *upper ones narrow* or slightly dilated; leaves on the flowering branches 5- 7-foliolate; *stems slightly sarmentose*; prickles hooked, alternate.

R. stylosa Desv., 1809.—Western Europe, North Africa, and probably Madeira.

This section is very imperfectly characterised. It is constituted by a Rose with numerous varieties, which has quite the appearance of a fixed hybrid produced by crossing *R. canina* with some species of the section Synstylæ. *R. stylosa* presents nothing of interest to Rose-growers.

SECT. III.—INDICÆ, *Thory.*

Styles free, projecting beyond the disc, almost half as long as the stamens; sepals reflexed after flowering . . . . the outer ones slightly pinnate or entire; *inflorescence* one- or many-flowered; *bracts narrow; stipules* adnate, the *upper ones narrow*, with small and divergent auricles; *leaves* on the flowering shoots 3- *5-foliolate*, rarely 7-foliolate; *stems* usually *erect*; prickles hooked, alternate.

R. indica, Lindley, 1820, and others; not of Linnæus.—China.

R. semperflorens, Curtis, 1794 (R. diversifolia, Vent., 1799; ? R. chinensis, Jacquin, 1768).—China.

We have not yet assured ourselves as to the duration of the sepals, or of their true direction during the ripening of the fruit.

Are the two types, *R. indica* and *R. semperflorens*, specifically distinct, or only two varieties of the same species? That is a question to which we are unable to reply at present. Rose-growers appear disposed to admit two distinct types. However, be that as it may, the section *Indicæ* has, since the commencement of this century, furnished a very rich series of horticultural varieties, which have now completely transformed old collections, thanks chiefly to the singular faculty of the *Indicæ* of continual or successional flowering. This power, which constitutes perhaps one essential character of the section, was unknown in the genus before the introduction of these Chinese Roses. It has been stated that certain varieties of *R. damascena* were perpetuals; but it is to be remarked that their second flowering is due to cultural arts, and is not normal.

The *Indicæ*, by being crossed with types of other sections, have frequently given Hybrid Perpetuals. The future will no doubt yet yield plenty of horticultural novelties from crossings with the *Indicæ*.

Hybrids of *R. indica* and *R. semperflorens* with *R. gallica* are generally to be recognised by the glandular aciculi which appear on their stems, &c., and which are quite wanting in *Indicæ*. On the other hand, the hybrids of the *Indicæ* with *R. multiflora* are distinguishable by their stipules, which are more or less deeply cut in like the teeth of a comb.

R. gigantea, Collett (1888), a strongly sarmentose species, should probably be placed in the section *Indicæ*. Our knowledge of it is not yet sufficient for us to come to a decision on this point. In the event of its becoming a species of this section, the diagnosis of the section will have to be modified slightly. It seems very probable that *Fortune's Double Yellow Rose*, which has been also called *Beauty of Glazenwood*, and to which Germain de St. Pierre has given the name of *R. amabilis*, is only a garden variety of *R. gigantea*.

SECT. IV.—BANKSIÆ, *Crépin*.

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *sepals entire, reflexed after flowering, caducous; inflorescence* many-flowered, *umbellate*, with *very small caducous bracts; stipules free, subulate, caducous*; leaves on the flower shoots 5- 7-foliolate; stems sarmentose, prickles hooked, alternate.

R. Banksiæ, R. Brown, 1811.—China.

R. Banksiæ is in cultivation with double flowers of white or a pale yellow. Crossed with *R. lævigata* it has produced the Rose known under the name of *R. Fortuneana*, Lindley.

SECT. V.—GALLICÆ, *Crépin*.

(Div. *Centifoliæ*, Lindley.)

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *neck of the receptacle shorter than the long hairs by which it is covered; sepals reflexed after flowering, caducous*, the exterior pinnate; *inflorescence often one-flowered, with a bractless pedicel, or rarely furnished with a very narrow bract*, two- or many-flowered, with the primary pedicel often provided with a bract; *stipules adnate, the upper ones not dilated*; *leaves* on the flower-shoots 3- *5-foliolate*; stems erect; prickles usually hooked, alternate, usually mixed with aciculi, glandular or not glandular.

R. gallica, Linnæus, 1753 (R. centifolia, Linnæus; R. muscosa, Miller).—Europe, Asia-Minor.

R. gallica, cultivated from the earliest times, has given rise to a crowd of garden varieties which constitute one of the most beautiful groups of our collections. By crossing with the *Indicæ* it produced a great number of hybrids, perpetual and otherwise. In nature *R. gallica* crosses freely with *R. arvensis*, and with many species of the section *Caninæ*.

Many authors have considered *R. damascena*, Miller (1768), to be a distinct type, classing it in section *Gallicæ*, but it is probable that this Rose is a hybrid produced from *R. gallica* crossed with a species of the section *Caninæ*. *R. alba*, Linnæus (1753), appears to be of the same nature.

R. francofurtana, Münch., 1770 (*R. turbinata,* Aiton, 1811), classed by some authors in the section *Gallicæ*, is a hybrid of unknown origin, but which is certainly distinct from *R. gallica.*

SECT. VI.—CANINÆ, *Crépin.*

(Sect. *Cynorrhodon,* Plur. auct.)

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *sepals reflexed after flowering, caducous, or erect on the ripe fruit, semi-persistent or persistent,* the outer ones pinnate with spreading appendages, very rarely entire; *inflorescence* generally many-flowered, *with a more or less dilated bract on the primary pedicels; stipules adnate, the upper ones more or less dilated*; leaves on the flowering branches 5- 7-foliolate, very rarely 9-foliolate; stems erect; prickles hooked or curved, very rarely straight, *alternate,* rarely mixed with glandular aciculi.

a. *R. canina,* Linnæus, 1753.—Europe, North Africa, Western Asia.
b. *R. ferruginea,* Vill., 1779 (R. rubrifolia, Vill., 1789).—Europe (mountains).
c. *R. rubiginosa,* Linnæus, 1767.—Europe, North Africa, Western Asia.
  R. glutinosa, Sibthorp and Smith, 1806.—Southern Europe, Western Asia.
  R. micrantha, Sm., 1812.—Europe, North Africa.
  R. agrestis, Savi, 1798 (R. sepium, Thuill., 1799).—Europe, North Africa.
  R. graveolens, Gren., 1848.—Europe.
d. *R. tomentosa,* Sm., 1800.—Europe, Western Asia.
e. *R. villosa,* Linnæus, 1753 (R. pomifera, Herrm., 1762; R. mollis, Sm., 1812).—Europe, Western Asia.
  ? *R. Heckeliana,* Tratt., 1823.—South Europe, Asia-Minor.
f. *R. elymaitica,* Boissier and Haussk., 1872.—Persia.
g. *R. Jundzilli,* Bess., 1816 (R. trachyphylla, Rau, 1816).—Europe, Asia-Minor.

This section may be divided into seven subsections.

The proper position of *R. Heckeliana* is not yet definitively settled.

R. rubiginosa, R. tomentosa, and *R. villosa* produce some double-flowered varieties.

R. ferruginea ought to have a place in shrubberies on account of the beauty of its foliage.

R. Jundzilli, which has some of the characters of *R. gallica*, has not up to the present time received attention from cultivators. It is probable that by cultivation very beautiful and very free-flowering varieties might be obtained from it.

SECT. VII.—CAROLINÆ, *Crépin.*

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *ovaries inserted exclusively at the bottom of the receptacle; sepals spreading, or erect on the fruit, caducous*, the *exterior ones entire, or pinnate with erect not spreading appendages; inflorescence* usually many-flowered with a narrow or dilated *bract to the primary pedicel*; stipules adnate, the upper ones narrow, more rarely dilated; leaves on the flowering branches 5- 7- 9-foliolate; stems erect; *prickles* straight or rarely hooked, *placed in pairs*, sometimes mixed with *aciculi, rarely all more or less setaceous, straight, numerous, and alternate.*

R. carolina, Linnæus, 1753.—North America.

R. humilis, Marsh., 1785 (R. parviflora, Ehrh., 1789).—North America.

R. foliolosa, Nuttall, 1840.—North America.

R. lucida, Ehrh., 1789.—North America.

R. nitida, Willd., 1809.—North America.

Some amateurs grow *R. carolina*, with single flowers; we do not know it with double blooms.

R. humilis, with double flowers, was frequently grown in Europe, but it has been almost entirely abandoned, in spite of real merit.

R. lucida, on account of its foliage, tinted with red in autumn, should often enter into the composition of shrubberies. *R. Rapa*, Bosc, which has large double flowers, has affinity with *R. lucida*, of which it is perhaps a garden variety.

SECT. VIII.—CINNAMOMEÆ, *Crépin.*

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *insertion of ovaries basilo-parietal; sepals entire, erect after flowering, persistent, crowning the fruit; inflorescence* usually many-flowered, with a *more or less dilated bract on the primary pedicels; stipules* adnate, the *upper ones more or less dilated*; leaves on the flowering branches 5- 7- 9-foliolate; stems erect; *prickles* straight, rarely hooked, *regularly placed in pairs* mingled or not with aciculi, or *numerous, straight, more or less, setaceous, alternate*, rarely absent.

R. cinnamomea, Linnæus, 1762.—Europe, Northern Asia.
R. davurica, Pallas, 1788.—Northern Asia.
R. nutkana, Presl, 1851.—North America.
R. pisocarpa, A. Gray, 1872 (? R. Woodsii, Lindley, 1820).—North America.
R. rugosa, Thunberg, 1784.—Asia.
R. californica, Cham. and Schlecht., 1827.—North America.
R. laxa, Retz., 1803.—North Asia.
R. Beggeriana, Schrenk, 1841 (R. anserinæfolia, Boissier, 1845).—Asia.
R. Alberti, Regel, 1883.—Asia.
R. gymnocarpa, Nuttall, 1840.—North America.
R. macrophylla, Lindley, 1820.—Asia.
R. Webbiana, Wall., 1839.—Asia.
R. blanda, Aiton, 1789 (R. virginiana, Miller, 1768).—North America.
R. acicularis, Lindley, 1820.—Northern Europe, North Asia, North America.
R. alpina, Linnæus, 1762.—Europe.

This large section may be subdivided into several subsections. We abstain in this place from making any further observations upon them.

R. cinnamomea has been grown for many centuries in a double-flowered variety (*R. fœcundissima*, Münch.).

R. rugosa is becoming more widely spread in cultivation. It is a magnificent type, on account of its foliage and its large corolla. Double varieties have been obtained from it. It has been successfully crossed with some of the *Indicæ* and other species. Crossed with *R. multiflora* it produced *R. Iwara*, Siebold. It is possible that *R. kamtchatica*, Vent. (1799), is only a variety of this species.

In the gardens of Turkestan a double variety of *R. Beggeriana* is in cultivation.

R. Webbiana has been found with double flowers in Thibet.

R. alpina has furnished us with several double varieties.

Crossed with one or other of the forms of the section *Indicæ*, it has given rise to the hybrids known under the name of Boursault Roses. Others of the *Cinnamomeæ* will doubtless be objects of attention on the part of Rose-growers, and will one day contribute to our collections of cultivated Roses.

SECT. IX.—PIMPINELLIFOLIÆ, *De Candolle.*

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *sepals entire, erect after flowering, persistent, crowning the ripe fruit; inflorescence* one-flowered (very rarely many-flowered by accident); *pedicel without bract*; stipules adnate, *the upper ones narrow, with abruptly dilated and very divergent auricles*; average *leaves* on the flowering branches usually *9-foliolate*; stems erect; prickles straight, *alternate*, mixed or not with aciculi.

R. pimpinellifolia, Linnæus, 1762 (R. spinosissima, Linnæus, 1753).—Europe, Asia.

R. xanthina, Lindley, 1820 (R. platyacantha, Schrenk; R. Ecæ, Aitchison, 1880).—Asia.

R. pimpinellifolia has given origin to many double-flowered garden varieties. It appears to have been crossed with *R. lutea*, and it is probably to this hybridising that we owe a yellow-flowered Rose which is intermediate between these two types. In a wild condition *R. pimpinellifolia* hybridises naturally with *R. alpina*, *R. canina*, *R. rubiginosa*, and probably with *R. tomentosa* and *R. villosa*.

R. xanthina, which has yellow flowers, is grown in a double form in China.

SECT. X.—LUTEÆ, *Crépin.*

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *neck of receptacle hidden by a felty collar of hairs; sepals erect after flowering, persistent, crowning the fruit*, the *exterior pinnate*, with erect non-spreading appendages; *inflorescence* one-flowered, *pedicel without bract*, or many-flowered without bracts to the primary pedicel; *stipules* adnate, the upper more or less narrow, *with* dilated *diverging* auricles; *leaves* on the flowering branches 5- 7-foliolate; stems erect; *prickles* straight or hooked, *alternate*, mingled or not with glands or glandular aciculi.

R. lutea, Miller, 1768 (R. Eglanteria, Linnæus, 1753; R. fœtida, Herrm., 1762).—Western Asia.

R. sulphurea, Aiton, 1789 (R. hemisphærica, Herrm., 1762).—Western Asia.

R. lutea with single flowers has been in cultivation for many centuries. Its double variety has only very recently been introduced into cultivation. *R. punicea*, Miller, is only a single variety of it.

R. sulphurea with double flowers dates back many centuries. Its wild form (*R. Rapini*, Boissier and Balansa, 1859) is of recent discovery.

SECT. XI.—SERICEÆ, *Crépin.*

Flower tetramerous; styles free, projecting, almost as long as the inner stamens; *neck of receptacle buried in hairs; sepals entire, erect after flowering, persistent, crowning the fruit; inflorescence* one-flowered, *pedicel without bract; stipules adnate*, the upper ones very narrow *with auricles* much dilated, *erect*; leaves on the flowering branches generally 9-foliolate; stems erect; prickles straight, *regularly geminate*, mingled or not with aciculi.

R. sericea, Lindley, 1820.—Asia.

This type, so curious on account of its tetramerous flowers, does not seem to have as yet attracted the notice of Rose-growers.

SECT. XII.—MINUTIFOLIÆ, *Crépin.*

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *sepals erect after flowering, crowning the fruit, persistent, the outer pinnate* with spreading appendages; *inflorescence* one-flowered, *pedicel without bract*; stipules adnate, the upper with very dilated and divergent auricles; *leaves* on the flowering branches 5- 7-foliolate; *leaflets incised*; stems erect; *prickles slender, straight, alternate, intermingled with more or less numerous aciculi.*

R. minutifolia, Engelmann, 1882.—California.

This species has a very distinct appearance, bearing very small leaflets, deeply cut, not toothed as in other species, and requires a fairly warm climate. Its cultivation in the open air would not be possible in the North.

SECT. XIII.—BRACTEATÆ, *Thory.*

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *disc large; stamens very numerous; sepals entire, reflexed after flowering; inflorescence* many-flowered with *broad incised bracts to the pedicels; stipules* *slightly adnate, deeply pectinate; leaves* on the flowering branches generally *9-foliolate*; stems erect or a little sarmentose; prickles hooked or straight, *regularly geminate*, mixed or not with aciculi.

R. bracteata, Wendland, 1797.—China, Formosa.

R. clinophylla, Thory, 1817 (R. involucrata, Roxburgh, 1820).—India (chiefly the basin of the Ganges).

R. bracteata crossed with *R. moschata* has yielded a sarmentose hybrid with double flowers, which is often grown under the false name of *R. bracteata*.

In its turn *R. clinophylla* crossed with *R. moschata* has produced the hybrid described by Lindley under the name of *R. Lyellii*.

SECT. XIV.—LÆVIGATÆ, *Thory*.

(SECT. *Sinicæ*, Crépin olim.)

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; disc broad, stamens numerous; *sepals entire, erect after flowering, persistent, crowning the receptacle*; *inflorescence* one-flowered, *pedicel bractless; stipules shortly adnate or almost free, finally caducous; leaves 3-foliolate* (sometimes accidentally 5-foliolate); *stems long-trailing*; prickles hooked, *alternate*, mixed or not with aciculi.

R. lævigata, Mich., 1803 (R. sinica Auct.).—China, Japan, Formosa.

This large and splendid Rose is naturalised in many parts of the globe, as, for instance, the Cape of Good Hope, Teneriffe, Madeira, and also in parts of America. Its synonyms are numerous. It has been quite recently re-introduced from Japan under the name *R. Camellia*. Crossed with *R. Banksiæ* it has, as we have already said, produced *R. Fortuneana*.

SECT. XV.—MICROPHYLLÆ, *Crépin*.

Styles free, included; stigmas forming a sessile head over the orifice of the receptacle; *ovaries inserted exclusively at the bottom of the receptacle*; disc broad; stamens numerous; *sepals erect after flowering, persistent, crowning the ripe fruit, the outer pinnate; inflorescence* generally many-flowered with *small and very quickly caducous bracts; stipules very narrow*, with subulate divergent auricles; *leaves* on the flowering branches 11- 13- 15-foliolate; stems erect; prickles straight, *regularly geminate*.

R. microphylla, Roxburgh, 1820.—China, Japan.

This species is one of the best characterised of the genus, and has produced double-flowered garden varieties.

ROSE CONSTRUCTION—NORMAL AND ABNORMAL.

Dr. Masters exhibited diagrams showing the ordinary conformation of the Rose, together with others representing exceptional peculiarities. The speaker laid stress upon the anatomical structure of the leaves, as affording an interesting subject of study from its variety, and also from its probable relation to the greater or less liability of particular roses to be injured by mildew. Alluding to the mode of development of the embryo-flower, the speaker showed how close was the real relationship of the Rose to the *Potentilla* and numerous other genera, which at first sight seem to have little affinity to it. A drawing was shown of a specimen collected by Dr. Shearer in which the flower of a Scotch rose, *Rosa spinosissima*, showed (by accident) exactly the construction of a *Potentilla*, the "hip" being undeveloped. The "quartering" of some roses, such as *Souvenir de la Malmaison*, and the varied arrangements of the petals in others, were traced back to variations in the embryo-flower affecting the number, arrangement, and degree of branching of the stamens, of which most of them are in reality the modified representatives.

Dr. Masters also showed flowers of *Rosa berberidifolia* (received from the Rev. H. Ewbank), and stated the results of his investigations into the peculiar characteristics of this remarkable plant. He pointed out that the stipules, though apparently wanting, are, at least potentially, present, and that the single leaf represents the terminal leaflet of an ordinary rose leaflet, the lateral ones not being developed. The characters of the flower, which superficially is more like that of a *Helianthemum*, were pointed out and shown to be in no important particular different from those of ordinary single roses; hence the speaker was of opinion that the plant, in spite of its peculiarities, was a true rose, and that there was no sufficient ground for placing it in a separate genus. A paper shortly to be published in the "Bulletin" of the Royal Society of Botany of Belgium contains full details as to the structure of this rose.

AUSTRALIAN ROSES.

On behalf of Mr. J. Paterson, of Tamworth, New South Wales, a photograph of a Cloth of Gold rose, showing its luxuriant growth and profusion of bloom, was exhibited. Mr. Paterson states that the rose in question begins to flower in October, and lasts about six weeks, the individual flowers being of great size. Baron Sir Ferdinand von Mueller also states in a letter to the Secretary that near Melbourne this variety flowers for four months out of the twelve. Tea-roses are generally preferred in Victoria, as they remain longest in flower and are less subject to the attacks of Aphis and other parasites than are other roses. Roses do not vary much in character, but in this winterless zone, writes the Baron, " we can greatly extend the duration of flowering by pruning at different times. Forcing is not resorted to here; indeed, some roses, like *Souvenir de la Malmaison*, are rarely without a flower the whole year round. Mr. French has just mentioned to me that he had on a standard (four years old) two hundred and thirty-six flowers of *Marshal Niel*, most of them open at the same time."

NEW INDIAN ROSES.

Dr. George King, the Director of the Royal Botanic Garden, Calcutta, sent for exhibition dried specimens of *Rosa gigantea*, *R. Colletti*, and *R. involucrata*. The greatest horticultural interest centres in the first-named, a Burmese species discovered by General Collett. It is a rose of the *indica* type with single white flowers measuring as much as six inches in diameter. A figure of this splendid rose is given in the *Gardeners' Chronicle* July 6, 1889, p. 13, and seeds kindly supplied by Dr. King have been distributed among various rosarians. Some were sown at Chiswick, while at Kew seedlings have been raised from seed also sent by Dr. King. From the locality in which it is indigenous, it is hardly likely that it will prove hardy in this country, though it will probably succeed in an ordinary rose house.

Discussion.

Sir Dietrich Brandis, K.C.I.E., said it was gratifying to see that the group which stood second on Mr. Baker's classification—*Synstylæ*—had stood the test of time, that botanists had not thrust it aside. He did not know whether that small German rose with tender white petals—the *Rosa arvensis*—received sufficient attention. Here the *Rosa arvensis* was a low trailing shrub, but in Austria and Germany it grew up to the top of very large trees. The rose *moschata* of India—the magnificent representative of the *arvensis*—was a plant which had been used by gardeners because it had produced some very good hybrids, its white flowers appearing on the largest trees and filling the air with a powerful scent for long distances. In the Blue Mountains of India was to be seen another white-centred rose of the same group as *Synstylæ*. Then there was the *Rosa alpina*—a rose without a thorn—certainly one of the ornaments of the European Alps. Another magnificent species, and a very strong, powerful grower, was the *Rosa macrophylla*, which grew at a great elevation, With regard to the *Rosa indica*, it had nothing to do with India proper. It was a Chinese rose, and the discovery of this rose between India and Burmah—a place which for the last twenty years had been in a most disturbed state, but which, under systematic British rule, would become one of the most flourishing countries—was exceedingly remarkable. There were large rose gardens in Northern India—there were fields of roses. The rose was cultivated on a very large scale there for the purpose of making rose perfumes and rose water ; and it was a very remarkable fact, but it was probable that these roses were not of old cultivation in India, but they were of comparatively recent introduction. The rose had no true Sanscrit name, which pointed to the fact that roses, which had been cultivated by the Mohammedans for centuries previously, were first introduced by them into India after their conquest of that country. In India, in days long before the Mohammedan conquest, there were gardens, and in Sanscrit songs flowers were praised, but the rose was not amongst them. The first rose which seemed to have been cultivated on a large scale was the oriental *damascena*, which was introduced probably by the Mohammedan conquerors.

Mr. Nicholson said, with regard to the *Rosa gigantea*, that seeds had germinated at Kew, and that he thought it best to treat it as an ordinary greenhouse plant.

Sir Dietrich Brandis proposed a vote of thanks to the President.

Sir Alex. Arbuthnot seconded the motion. He said the Conference had been a most interesting one, even to amateurs like himself, and he trusted that the future of their work in the cultivation of roses would be eminently practical.

DIGEST

OF

STATISTICAL RETURNS

FOR

ROSE CONFERENCE

1889

BY

REV. W. WILKS, M.A. SEC. R.H.S.

* NOTE.—The List of Abbreviations, Synonyms, &c., will be found at the end of the Digest, page 283.

County	Name and locality	1. Soil 2. Subsoil 3. Drainage 4. Aspect	The best 12 H.P.s for show blooms	The next best 12 H.P.s for show blooms	The most useful 12 H.P.s for general use as cut flowers for decoration	The next most useful 12 H.P.s for general use as cut flowers for decoration	The best 12 Garden or Decorative Roses
BEDFORDSHIRE. 1	W. H. JACKSON, Stagsden, Bedford.	1. Clay gault. 2. Do. 3. Artificial. 4. S.E. & N.W.	C.L.; C.C.; A.C.; M.L.; U.B.; G.L.; Eie.V.; M.deC.; V.B.; LaF.; E.L.; D.deV.	C.D.; H.V.; M.B.; M.V.; M.N.; Dr.A.; P.N.; S.of W.; E.Y.T.; C.B.; S.V.; M.Bn.	La F.; F.H.; M.L.; Eie.V.; G.L.; B.R.; U.B.; M.C.; C.C.; M.de C.; Bon; D.of W.	—	—
BERKSHIRE. 2	J. F. STRANGE, Aldermaston, Reading.	1. Stiffish loam 2. Gravel. 3. Nat. 4. S.W.	A.C.; A.K.W.; B.R.; C.L.; La F.; G L.; M.B.; M.de C.; U.B.; M.R.; M.Bn.; M.L.	C.C.; B.of W.; D.of B.; D. of E.; F.H.; J.S.; L.V.H.; Me.V.V.; S.F.; D.of W.; S.of W.; X.O.	La F.; U.B.; D.of E.; C.C.; Eie.V.; H.S.; E.of P.; P.C.; Dr.A.; D. J.; J. H.	—	La F.; B.P.; J.M.; C.J.M.; G.J.; B.d'Or; G. de D.; Me. B.; S.M.; R.M.H.; W.A.R.; B.N.; G.D.
3	T. W. GIRDLESTONE, Sunningdale.	1. Loamy sand. 2. Sand and gravel.	A.K.W.; G.L.; U.B.; La F.; Mrs. J.L.; C.L.; E.L.; L.M.F.; H.V.; M. de C.; Eie. V.	V.B.; D.J.; P.A.; D. of E.; A.S.; F.M.; H.S.; L.V.H.; S.R.; M.B.; M. de S.A.; D. de V.	A.K.W.; G.L.; Eie.V.; C. la C.; B.R.; D. of E.; G.J.; H.L.; M. de R.; La F.; M.A.C.; E.D.	Me.Bois; C.Lb.; Caroline Swailes; G.Lse.; Lady H. Stewart; G.D.; R.M.H.; C.L.; S.R.; Dr.A.; V.F.; U.B.	C.laC.; M.V.H.; La F.; A.A.; G.L.; M.A.C.; B.R.; A.K.W.; B.N.; ComtessedeParis(Leveque); Me.Lm.; U.B.
BUCKINGHAMSHIRE. 4	C. TURNER, Slough.	1. Loam. 2. Clay. 4. Open.	A.C.; C.L.; La F.; M.L.; U.B.; M.B.; A.K.W.; C.O.; H.M.; Mrs.J.L.; Dr.A.; B.R.	C.B.; C.R.; E. of P.; F.M.; H.V.; D.of E.; G.L.; P.A.; Me.V.V.; P. of W.; P.C.; M.V.	La F.; G.L.; P.of W.; P.A.; U.B.; B.N.; D. of W.; Mrs.J.L.; G.J.; E.B.; C.D.; E.of P.	C.S.; V.H.; M.deS.A.; A.G.; Eie V.; Mrs. G.D.; M.Bn.; H.S.; S.V.; G.de D.; D.J.; B. of W.	A.G.; Me.Lm.; LaF.; D. of W.; E. of P.; M.de C.; U.B.; H.S.; Dr.A.; G.de D.; A.O.; Me.V.V.
5	T. J. WILLIAMS, Waddesdon, Aylesbury.	1. Clay. 2. Do.	La F.; C.C.; C.L.; A.K.W.; P.C.; U.B.; C.O.; E.Y.T.; B.R.; A.C.; D.of E.; Le H.	S.V.; V.H.; X.O.; R.H.; M.L.; M.H.; M.B.; L.V.H.; L.M.F.; D.of C.; F.M.; Dr.A.	La F.; C.C.; C.L.; A.K.W.; P.C.; U.B.; C.O.; E.Y.T.; B.R.; A.C.; D.of E.; Le H.;	S.V.; V.H.; X.O.; R.H.; M.L.; M.H.; M.B.; L.V.H.; L.M.F.; D. of C.; F.M.; Dr.A.	La F.; C.C.; B.R.; C.O.; C.H.; D.; C.N.; M.Nl.; M.V.H.; P.C.; D. of E.; A.C.
CAMBRIDGESHIRE. 6	G. BURCH, Peterborough.	1. Sandy loam. 2. Limestone. 3. Natural. 4. E.	M.B.; U.B.; H.V.; H.M.; F.M.; M.Bn.; L.M.F.; M.L.; L.V.H.; LaF.; A.C.; A.K.W.	G.L.; Mrs. J.L.; D. of B.; C.B.; D.of W.; M.N.; E.L.; M.R.; C.O.; S.of W.; C.L.; S.V.	U.B.; M.Bn.; Ab.C.; C.D.; Mag.; G.L.; V.B.; B.R.; F.H.; D. of E.; M.de C.; D. of C.	D.of W.; S.V.; H.S.; G.J.; C.B.; P.C.; M.B.; D.J.; J.S.M.; B. of W.; M.de S.A.; La F.	—

7	J. BURRELL, Cambridge.	1. Yellow loam 2. Chalk. 3. Artificial. 4. N.E.	H.V.; A.K.W.; LaF.; A.C.; H.M.; D. of E.; M.B.; U.B.; Mrs.J.L.; C.L.; P. of W.; L.M.F.	D. of B.; F.M.; D. of T.; B.R.; D. of W.; M.L.; C.O.; Eie.V.; M. de C.; D.J.; R.H.; L.V.H.	La F.; G.L.; D. of E.; D. of T.; P.A.; Eie.V.; U.B.; M.L.; M. de C.; D.J.; V.B.; F.H.	B.R.; A.L.; Me.V.V.; S.V.; H.S.; D. de V.; C.C.; F.M.; M.Bn.; V.H.; C.L.; P.C.	La F.; G. de D.; Me. Lm.; M.V.H.; U.B.; W.A.R.; Eie.V.; M.L.; D. of E.; F.K.; G.L.; D. of T.
8	E. G. KING, Madingley, Cambridge.	1. Clay. 2. Chalkmarl. 4. N.	—	—	—	—	—
CHESHIRE. 9	DICKSONS (Limited), Chester.	1. Strong loam. 2. Clay. 3. Artificial. 4. Open.	A.C.; A.K.W.; C.L.; La F.; E.M.; H.S.; M.B.; M. de C.; D. de M.; M.L.; U.B.; B.R.	Ab.C.; B. of W.; C.C.; C.O.; C.R.; Dr.A.; H.V.; L.V.H.; G.L.; M.deS.A.; P. of W.; V.V.	A.L.; B.R.; B.N.; C.B.; D. of B.; D. of E.; D. of T.; E. of P.; G.J.; J.C.; J.H.; La F.	D.J.; F.H.; G.Lse.; J.M.; Me.L.; Eie.V.; M.deS.A.; Mrs.G.D.; P.C.; Q.Q.; W.Bs.; V.V.	A.G.; A.A.; B.P.; B.N.; B. of C.; B.; C.Lb.; C. de C.; J.H.; G. de D.; P.L.V.; P.Y.
10	L. GARNETT, Christleton, Chester.	1. Very light. 2. Sand. 3. Natural. 4. S.	A.C.; A.K.W.; F.M.; H.S.; LaF.; L.V.H.; G.L.; Eie.V.; M.B.; M.L.; Mrs.J.L.; U.B.	C.L.; D. de V.; E.L.; H.M.; H.V.; B.R.; D.J.; M. de S.A.; C.B.; D. of B.; Le H.; M. de C.	LaF.; A.K.W.; B.R.; G.L.; Eie.V.; M. de C.; A.C.; D. of E.; M.L.; C.B.; L.V.H.; C.C.	C.L.; Ab. C.; M. de S.A.; D. of T.; C. la C.; Le H.; M.Bn.; P.M.; M.B.; G.J.; L.B.; B.N.	B. d'Or.
11	T. B. HALL, Rock Ferry.	1. Clay. 2. R. sandstone 3. Artificial. 4. E. and S.	A.K.W.; C.C.; C.L.; Dr.A.; D. of B.; D.J.; E.L.; La F.; L.V.H.; M.B.; Eie.V.; U.B.	A.C.; D. of E.; D. of W.; D. de V.; G.J.; M. de C.; G.L.; M.H.J.; M.L.; M.V.; F.H.; P.A.	A.K.W.; C.C.; C.L.; Dr. A.; D. of B.; D.J.; E.L.; La F.; L.V.H.; M.B.; Eie.V.; U.B.	A.C.; D. of E.; D. of W.; D. de V.; G.J.; M. de C.; G.L.; M.H.J.; M.L.; M.V.; F.H.; P.A.	B.N.; B. d'Or; R. d'Or; B.2; W.A.R.; A.Y.; H.; O.; C.C.C.; Ra.; C.P.; A.V.
12	T. TATHAM, Wilmslow.	1. Stiff marley.	M.B.; La F.; C.C.; C. de R.; D. of B.; L.V.H.; M.L.; U.B.; L.M.F.; B.R.; A.C.; A.K.W.	C.L.; C.deS.; E.M.; E.L.; F.M.; E.Y.T.; Eie.V.; G.L.; Me. V.V.; M. de C.; R.J.; A.S.	G.D.; G.J.; La F.; M.B.; V.B.; C.O.; L.V.H.; C.C.; M.L.; M.H.J.; Dr.A.; B. of W.	B.R.; C. de R.; A.C.; A.W.; Eie.V.; Me.L.; Me.V.V.; U.B.; Me. I.P.; Pl.N.; V.V.	W.A.R.; G. de D.; A.O.; Me. Lm.; Me. Cn.; C.K.; La F.; M.B.; C.C.; M.L.; B.R.; Me. I.P.
DEVONSHIRE. 13	R. N. G. BAKER, Heavitree.	1. Rich red. 3. Artificial.	A.K.W.; Mrs.J.L.; A.C.; M.B.; C.L.; M.L.; M.R.; E.L.; U.B.; M. de C.; D. of E.; B.R.	Mrs.B.; Dr.A.; F.M.; M.V.; C.B.; La F.; D. of W.; E.Y.T.; M.deS.A.; D.J.; Me. V.V.; G.L.	—	—	—

County	Name and locality	1. Soil 2. Subsoil 3. Drainage 4. Aspect	The best 12 H.P.s for show blooms	The next best 12 H.P.s for show blooms	The most useful 12 H.P.s for general use as cut flowers for decoration	The next most useful 12 H.P.s for general use as cut flowers for decoration	The best 12 Garden or Decorative Roses
DERBYSHIRE. 14	W. BOYES, Milford.	1. Strong loam. 2. R. sandstone 3. Natural. 4. E.	A.K.W.; B.R.; D. of B.; E.L.; F.M.; H.V.; LaF.; L.V.H.; G.L.; M.B.; M.L.; U.B.	C.B.; C.C.; C.L.; Dr. A.; D. of W.; M. Bn.; Le H.; Eie.V.; M.V.; M. de C.; S. of W.; T.M.	—	—	B.R.; C. la C.; Cnt.; D.J.; G.J.; La F.; G. de D.; J.H.; Me. I.P.; M. de C.; U.B.; W.W.
15	H. V. EDWARDS, Mackworth.	1. Stiff clay. 2. Do. 3. Artificial. 4. S. & S.W.	A.K.W.; LaF.; B.R.; M. de C.; M.B.; B. of W.; A.C.; S.V.; L.V.H.; C.L.; M.L.; G.L.	—	La F.; P.C.; G.L.; B.N.; Ab.C.; H.V.; F.H.; M.B.; P. of W.; V.B.; C.C.; D. of B.	—	—
16	C. KNIFTON, Duffield.	1. Light. 2. Sandy. 3. Natural.	A.K.W.; M.B.; G.L.; M.L.; LaF.; L.V.H.; U.B.; C.L.; L.M.F.; F.M.; E.L.; A.C.	H.V.; B.R.; C.C.; D. of E.; M.R.; M.V.; H.M.; M. de C.; P.A.; R.H.; X.O.; C.B.	—	—	—
DURHAM. 17	J. E. BACKHOUSE, Croft, Darlington.	1. Stiff loam. 2. Clay. 3. Artificial.	A.C.; B.R.; D. de M.; D. de V.; Eie.V.; La F.; L.V.H.; G.L.; M.H.J.; M.B.; M. de C.; M.L.	Ab.C.; C.C.; C.O.; D. of B.; D. of E.; D. of T.; E.L.; L.S.; Me. I.P.; P. of W.; U.B.; X.O.	—	—	—
ESSEX. 18	B. R. CANT, Colchester.	1. Strong clay 3. Pipes. 4. Open.	A.C.; A.K.W.; B.R.; C.L.; D. of E.; H.M.; H.V.; L.M.F.; G.L.; M.B.; M.L.; Mrs. J.L.	M.Bn.; F.M.; La F.; L.V.H.; Me.V.V.; M. de S.A.; M.N.; P.A.; P. of W.; U.B.; V.H.; X.O.	A.K.W.; D. of E.; D.J.; B.R.; F.H.; G.J.; LaF.; M.L.; Eie. V.; G.L.; P.A.; U.B.	A.C.; B.N.; C.O.; Dr. A.; D. of W.; J.H.; J.M.; M.V.; M.Bn.; M.B.; P.C.; V.H.	B.N.; D. of E.; D.J.; G.J.; La F.; J.M.; G.L.; P.A.; U.B.; G. de D.; M.V.H.; W.A.R.
19	J. H. PEMBERTON, Havering, Romford.	Various.	U.B.; H.S.; Me.V.V.; A.K.W.; C.L.; D. of B.; P. of W.; C.O.; L.V.H.; E.L.; LaF.; H.V.	M.B.; M.L.; M.E.V.; E.Y.T.; M. de C.; H.W.; A.C.; M.C.; L.M.F.; C.R.; F.M.; B. of W.	—	—	—

20	W. Rumsey, Waltham Cross.	1. Loam. 2. Gravel&clay 3. Natural. 4. N. & N.E.	A.C.; [illegible]; B.R.; C.O.; E.L.; H.V.; LaF.; L.M.F.; G.L.; M.B.; U.B.; Eie.V.	C.B.; C.R.; Dr.A.; D. of E.; F.M.; D. de M.; L.V.H.; M. Ny.; M.L.; P. of W.; S. of W.; Me.V.V.	A.L.; Ml.V.; C.L.; D.J.; M.Bn.; G.J.; H.S.; Mag.; Mrs. G.D.; V.V.; V.B.; U.B.	—	—
21	H. Wallis, Brentwood.	1. Light. 2. Loam. 3. Natural. 4. S.	A.K.W.; E.F.; U.B.; C.L.; H.S.; F.M.; C.R.; M.L.; La F.; D. of E.; G.L.; P.A.	L.M.F.; F.B.; L.S.; V.H.; C.O.; L.V.H.; M.E.V.; D. of B.; M.B.; Ab.C.; D. of W.; C. de R.	A.K.W.; D. of T.; B.N.; G.J.; J.H.; B. laR.; LeH.; M.deC.; Mrs. G.D.; Mrs. H. T.; P.C.; H.L.	G.C.; T.M.; C.J.; Mag.; Me.I.P.; Me. V.V.; S.F.; B.R.; F.H.; La F.; Ab.C.; E.	J.M.; Ma.C.; E.M.; W.A.R.; G.J.; G.D.; C.H.; G.deD.; Bon.; B.L.; D.of T.; Me.F.
Gloucestershire. 22	W. J. Jeffries, Cirencester.	1. Various. 2. Gravel. 3. Natural.	A.K.W.; A.C.; C.deR.; V.H.; La F.; D.ofE.; H.V.; M.B.; M.N.; Mrs.J.L.; U.B.; C.C.	D.deV.; D.ofT.; R.H.; M.V.; Me.V.V.; M.Bn.; Q.Q.; P.N.; B.R.; Me. C. W.; R.J.; G.L.	La F.; Eg.; V.B.; C.O.; G.J.; G.Lse.; B.N.; A.W.; L.V.H.; D. of A.; M. de S.A.; D.J.	C.Lb.; Eie.V.; D.ofE.; D.ofT.; M.C.; A.L.; S.V.; T.M.; M.Bn.; G.L.; F.H.; M.H.	A.S.; E.ofP.; H.S.; E.G.; C.laC.; Mag.; Me.I.P.; Me.Rogier; T.L.; Cath. Bell.; Eie.V.; Eg.
23	J. Rawlins, Cirencester.	1. Light. 2. Gravel. 3. Natural. 4. S.	A.K.W.; M.B.; G.L.; L.V.H.; C.R.; E.L.; F.M.; D.J.; La F.; U.B.; C.L.; A.C.	Dr.A.; C.O.; Mrs.J.L.; R.H.; V.V.; M.R.; D.ofE.; X.O.; P.C.; M.L.; Eie.V.; H.V.	La F.; G.L.; B.R.; M.deC.; M.B.; C.C.; B.ofW.; J.M.; F.H.; G.J.; M.E.V.; F.M.	—	—
Hampshire. 24	Ewing & Co., Havant.	1. Stiff loam. 2. Clay. 3. Natural. 4. Open.	A.C.; C.L.; M.B.; M.L.; A.K.W.; D. of E.; G.L.; E.L.; B.R.; H.S.; La F.; R.H.	Ab.C.; C.O.; M.M.; X.O.; Dr.S.; S.Z.; M. de C.; L.V.H.; Mag.; C.R.; P.A.; D. of T.	A.C.; E.ofP.; LaF.; B.N.; G.J.; J.M.; B.R.; C.O.; D.ofC.; J.H.; M.L.; D.ofE.	—	F.; G.deD.; R.d'Or; Ch.; C. Ch.; R.; A.deM.; Mignonette; R.Ab.; Me.Lm.; M.V.H.; C.H.
25	E. Hillier, Winchester.	1. Light. 2. Chalk.	—	—	—	—	—
26	T. Ramsay, Fareham.	1. Stiff loam. 2. Clay. 3. Natural. 4. N.E.	M.B.; A.K.W.; M. de C.; G.L.; M.L.; B.R.; A.C.; M.E.V.; C.C.; H.V.; C.L.; U.B.	F.M.; E.L.; LeH.; R.H.; P.C.; C.O.; X.O.; M.V.; Eie.V.; C.B.; Mrs.B.; D.ofE.	F.H.; M.deC.; LaF.; P.L.; M. de S. A.; A.L.; Abbé Bamerel; E.ofP.; Pl.N.; M.L.; Me.V.V.; U.B.	C.B.; C.C.; J.M.; D.J.; Le H.; H.J.; P.M.; A.C.; C.O.; D. de M.; A.K.W.; D. of T.	—

County	Name and locality	1. Soil 2. Subsoil 3. Drainage 4. Aspect	The best 12 H.P.s for show blooms	The next best 12 H.P.s for show blooms	The most useful 12 H.P.s for general use as cut flowers for decoration	The next most useful 12 H.P.s for general use as cut flowers for decoration	The best 12 Garden or Decorative Roses
HAMPSHIRE—*cont.* 27	W. WILDSMITH, Winchfield.	1. Sandy loam. 2. Sandy gravel 3. Natural. 4. S.W.	A.C.; B.ofW.; C.C.; C.L.; B.R.; G.J.; D.J.; J.H.; M.B.; La F.; M.L.; P.C.	A.K.W.; B.N.R.; D.of E.; H.M.; J.M.; G.L.; Eie.V.; Mag.; M.deC.; S.V.; U.B.; V.V.	An.D.; A.G.; B.N.; Cnt.; C.V.V.; E.A.; F.H.; Me. C.W.; M.R.; Mrs. J. L.; Pl.N.; X.O.	C.B.; C.R.; E.M.; D. of W.; G.M.; M.H.J.; L.V.H.; A.A.; Me. V.V.; Ml. V.; R.H.; Q.Q.	C.V.V.; G.J.; J.M.; M.B.; S.V.; S.M.; A.V.; C.F.; G.deD.; L.; R.M.H.; S.d'A.
HEREFORDSHIRE. 28	F. R. BURNSIDE, Birch, Hereford.	1. Loamy. 2. R. sandstone 3. Natural. 4. S.W.	A.K.W.; C.L.; DofE.; E.D.; U.B.; H.M.; La F.; L.M.F.; L.V.H.; G.L.; M. de S.A.; M.B.	C.C.; D.J.; E.of P.; M.deC.; M.L.; M.N.; M.Bn.; C.B.; Eie.V.; V.F.; E.L.; G.D.	—	—	—
29	J. CRANSTON, Kingsacre, Hereford.	1. Loam. 2. Gravel. 3. Natural. 4. S. & S.W.	A.C.; A.K.W.; C.L.; LaF.; L.V.H.; Eie.V.; M. de S.A.; M.B.; M.L.; E.Y.T.; E.L.; P.C.	C.O.; M.Bn.; G.J.; J.L.; G.L.; B.R.; Dr. A.; D. of E.; D.J.; S.V.; R.H.; U.B.	C.C.; Cnt.; C.L.; C.O.; D.ofE.; G.J.; La F.; B.R.; Mag.; V.B.; B.N.; P.C.	Ab.C.; A.C.; B.ofW.; Dr.A.; M.B.; M.K.; L.V.H.; Me. L.; Ml. V.; M. de C.; F.M.; S.Z.	S.M.; LaF.; A.C.; B.R.; B.ofW.; B.N.; C.C.; Cnt.; G.J.; Dr.A.; D.ofE.; C.Bd.
30	W. J. GRANT, Ledbury.	1. Brask. 2. R. sandstone 3. Artificial.	A.K.W.; H.V.; LaF.; M.B.; U.B.; G.L.; L.M.F.; G.J.; D.ofE.; D.ofB.; C.L.; M.deC.	Ab.C.; A.C.; B.R.; C.O.; Dr.A.; F.M.; H.S.; P.C.; L.V.H.; Eie.V.; M.Bn.; M.R.	La F.; B.N.; D.of E.; G.J.; J.M.; L.V.H.; M.V.; P.C.; M.L.; P.A.; B.R.	Ab.C.; A.C.; A.R.; Dr.A; D.ofT.; D.ofW.; F.H.; LeH.; G.L.; M.N.; U.B.	La F.; D. of E.; M.V.H.; B.d'Or; M.P.; M.Bn.; G.J.; Ru.; Me. Lm.; W.A.R.; Ch.
HERTFORDSHIRE. 31	F. H. GALL, Hitchin.	1. Loamy clay.	E.D.; H.M.; A.C.; C.L.; G.L.; L.M.F.; A.K.W.; U.B.; D.J.; X.O.; La F.; M.L.	D.ofE.; M.B.; B.R.; D.ofW.; C.C.; H.S.; R.J.; C.O.; M.deC.; C.D.; M.Bn.; Dr.A.; A.S.	—	—	—
32	F. F. LAMBERT, Clothall, Baldock.	1. Clay. 2. Chalk.	La F.; Mag.; E.L.; M.B.; Ab.C.; U.B.; A.K.W.; D. of E.; G.L.; D.J.; B.R.;	A.G.; C.B.; D.ofW.; M.R.; J.L.; M.deC.; D. of C.; C.D.; Dr. A.; Eie.V.; Me.L.; P. of W.	G.J.; La F.; A.G.; Ed.M.; P.M.; G.L.; B.R.; M.B.; C.B.; D.of E.; D.of C.; M. de C.	Me.L.; J.H.; C.C.; A.W.; Mrs. Rivers; B.N.; Eie.V.; S.M.; P.A.; S.Z.; C.D.; Dr. A.	—

33	E. Mawley, Berkhamsted.	1. Stoney clayey loam. 2. Chalk. 3. Natural. 4. S.W.	G.L.; M.B.; A.K.W.; LaF.; U.B.; L.M.F.; M.L.; L.V.H.; A.C.; F.M.; H.M.; Mrs.J.L.	B.R.; C.C.; C.L.; M.de C.; P.A.; H.V.; EieV.; C.O.; E.Y.T.; H.S.; D.J.; M.Bn.	La F.; Eie.V.; C.C.; D.of E.; Ab.C.; G.J.; D.J.; V.H.; F.H.; B.N.; G.L.; M.L.	A.K.W.; A.C.; H.S.; S.V.; V.H.; P.C.; E.of P.; C.R.; P.A.; D. of T.; Mrs. J.L.	B.N.; A.G.; G.deD.; M.V.H.; U.B.; Eie.V.; M.L.; D. of E.; G.L.; J.M.; G.J.; La F.
34	Paul & Son, Cheshunt.	1. Loam 2. Gravel. 4. Open.	A.C.; M.B.; A.K.W.; D.of E.; M.Bn.; C.L.; H.M.; M.L.; E.L.; Mrs.J.L.; U.B.; LaF.	C.deR.; Dr.A.; R.H.; M.R.; C.O.; Ab.C.; D.de M.; S.R.; B.R.; C.C.; L.M.F.; G.L.	G.C.; Me.V.V.; Ab.C.; D.of C.; G.of C.; P.C.; LaF.; D.of T.; D.of E.; B.N.; C.C.; L.M.F.	G.J.; H.L.; M.B.; Eie.V.; M.B.K.; V.H.; M.Bn.; C. de R.; Mrs. J.L.; G.L.; R.H.; U.B.	Me.V.V.; S.V.; G.C.; La F.; C.C.; D. of C.; G.deD.; C.F.; W.A.R.; S.M.; Me.Bo.; M.V.H.
Kent. 35	W. R. Ashurst, Farningham.	1. Yel. loam, chalky. 2. Flint and chalk replaced with loam and turf. 3. Artificial. 4. S.E.	—	—	—	—	—
36	H. B. Biron, Lympne, Hythe.	1. Loam. 2. Limestone. 3. Natural. 4. S.E.	M.B.; A.C.; H.V.; G.L.; C.L.; LaF.; A.K.W.; E.L.; D. of E.; U.B.; D. of B.; M. L.	M.R.; P.A.; D.J.; D. of W.; Dr. A.; M.V.; E.F.; A.S.; S. of W.; F.H.; H.S.; P.Ct.	La F.; Me. I.P.; G.Lse.; M.B.; C.L.; Dr.A.; D.of E.; E.F.; V.B.; G.L.; M.Bn.; C.B.	—	W.A.R.; G.L.; M.V.H.; LaF.; G.Lse.; G. de D.; Me. I.P.; M.B.; E.F.; A.O.; S.d'A.; C.Law.
37	R. Bloxam, Eltham.	1. & 2. Heavy loam. 3. Artificial.	—	—	B.R.; C.C.; Eie.V.; H.L.; LaF.; L.V.H.; M.deC.; M.N.; P.L.V.; Mrs. Swailes; V.H.; X.O.	Ab.C.; A.K.W.; E.L.; F.M.; G.J.; J.L.; G.L.; M.B.; P.of W.; P.C.; H.S.; L.M.F.	—
38	G. Bunyard, Maidstone.	1. & 2. Sandy loam. 3. Natural. 4. Open.	A.K.W.; F.M.; C.B.; C.L.: M.L.; M.B.; A.C.; C.O.; H.S.; Mrs.J.L.; M.Bn.; U.B.	S. of W.; E.Y.T.; M.R.; B.J.; X.O.; B. of W.; S.V.; D. de V.; C.C.; H.V.; Me.C.W.; M.V.	F.M.; La F.; M.B.; P.C.; D.of W.; A.C.; D.J.; C.D.; G.J.; M.Bn.; D. of E.; M. de C.	V.B.; D.of C.; Me.V.V.; H.J.; E.L.; M.N.; J. B.; G. Lse.; B. of W.; E. of P.; C.L.; S.V.	M.B.; LaF.; J.M.; C.B.; D.J.; G.deD.; H.; M.V.H.; C.H.; B.N.; W.A.R.

County	Name and locality	1. Soil 2. Subsoil 3. Drainage 4. Aspect	The best 12 H.P.s for show blooms	The next best 12 H.P.s for show blooms	The most useful 12 H.P.s for general use as cut flowers for decoration	The next most useful 12 H.P.s for general use as cut flowers for decoration	The best 12 Garden or Decorative Roses
KENT—*cont.* 39	Capt. CHRISTY, Sittingbourne.	1. Loam. 2. Chalk. 3. Natural. 4. S.W.	A.K.W.; B.R.; C.L.; L.V.H.; M.N.; L.M.F.; U.B.; Ab.C ; A.C.; M.B.; M.L.; La F.	B.of W.; C.C.; C.B.; D. de V.; D. of E.; D.J.; F.M.; H.V.; Le H.; M.C.; M. de S.A.; Eie.V.	—	—	—
40	W. H. WAKELEY, Rainham.	1. Light loam. 2. Chalky. 3. Natural. 4. S.W.	A.K.W.; M.B.; A.C.; D. of E.; L.V.H.; G.L.; La F.; M.deC.; C.B.; B.R.; M.N.; Dr. A.	C.L.; D. of B.; F.H.; P.A.; U.B.; C.C.; E.F.; D.of W.; F.M.; S.V.; L.M.; Eie.V.	A.K.W.; J.M.; H.L.; C.L.; D.of E.; F.H.; G.J.; S.V.; B.R.; L.M.; Dr.A.; Eie.V.	D.of B.; D.of C.; C.C.; Me.C.W.; Me.L.; P.A.; E.F.; T.M.; D.of W.; M. de S.A.; V.B.; Me.V.V.	W.A.R.; Me.F.; M.V.H.; R.d'Or; O.; C.K.; H.; Me.Lm.; J.M.; H.L.; A.V.; B. d'Or.
LEICESTERSHIRE. 41	E. N. POCHIN, Barkly, Leicester.	1. Various. 3. Artificial. 4. South.	C.L.; La F.; M.L.; V.V.; A.K.W.; B.R.; E.L.; L.M.F.; A.C.; M.deC.; M.B.; Bon.	Ab.C.; C.O.; Dr.A.; D.deV.; D.of W.; D.J.; Ml.V.; M. de S.A.; M.R.; H.V.; G.L.; U.B.	—	—	D.of W.; LaF.; P.V.; F.H.; J.H.; S.M.; M.Nl.; G.deD.; V.V.; D.J.; U.B.; M.L.
MIDDLESEX. 42	J. BATEMAN, Highgate.	1. Stiff clay. 2. Do. 3. Natural. 4. E.	D.J.; G.L.; U.B.; B. of W.; M.R.; A.K.W.; M.B.; F.M.; LeH.; M. de C.; Cl. C.; Mrs. J.L.	B.R.; L.V.H.; C.L.; E.L.; Eie.V.; L.M.F.; D.deV.; X.O.; P.A.; H.S.; M.L.; P.of W.	D.of E.; C.S.; LaF.; D. of B.; Me.V.V.; E.F.; A.W.; Dr.A.; T.M.; M.T.L.; F.H.; Mrs. G.D.	Mag.; C.deC.; Pl.N.; G.Lse.; A.A.; A.L.; J.M.; L.C.; Mrs.L.; P.C.; V.Vg.; B.N.	D.of E.; C.S.; LaF.; D. of B.; Me.V.V.; E.F.; A.W.; Dr.A.; T.M.; M.T.L.; F.H.; Mrs. G.D.
43	E. K. BRIDGER, Hampton.	1. Light. 2. Gravel.	—	—	—	—	—
44	O. FRIEDERICH, Muswell Hill.	1. Light.	A.K.W.; B. of W.; Cl.C.; D.J.; F.M.; LeH.; G.L.; M.B.; M.R.; M.de C.; Mrs. J.L.; U.B.	B.R.; C.L.; D.deV.; E.L.; H.S.; L.M.F.; L.V.H.; Eie.V.; M.L.; P.of W.; P.A.; X.O.	A.L.; A.A.; B.N.; E.F.; F.H.; G.Lse.; J.M.; LaF.; M.T.L.; Me.V.V.; Mag.; Mrs. G.D.	A.W.; C.S.; C.de C.; Dr.A.; D.of B.; D.of E.; L.C.; Mrs. L.; Pl.N.; P.C.; T.M.; V.Vg.	A.L.; A.A.; B.N.; E.F.; F.H.; G.Lse.; J.M.; LaF.; M.T.L.; Me.V.V.; Mag.; Mrs. G.D.

	W. T. THISELTON DYER, and F. GARRETT, Kew.	1. Sandy gravel.	—	—	A.K.W.; Ae.D.; D. of B.; E.Y.T.; Ed. M.; Ml.V.; Felix Genero; G. of W.; LaF.; M.L.; Mag.; U.B.	C.C.; Dr. H.; D. of E.; Pl.N.; F.L.; J.M.; B.R.; Me.V.V.; D. de M.; Francois Fontaine; Richard Wallace; M.A.D.	F.H.; Dr.A.; M.Bn.; G. Peyrony; P.L.; M.deC.; Ds.of C.; C. d'H.; A.A.; Cn.P.; L.F.C.; L.D.
NORFOLK. 46	E. PENRICE, Norwich.	1. Stiff loam.	M.B.; A.C.; A.K.W.; LaF.; M.R.; E.L.; B.R.; M.L.; C.L.; G.L.; G.C.; D. of T.	Mag.; Le H.; D. of B.; Dr.A.; C.B.; D. of E.; C.C.; H.V.; C.D.; S.Z.; A.S.; A.W.	—	—	—
47	F. PAGE ROBERTS, Scole.	1. Light. 2. Gravel. 3. Natural. 4. S.	A.C.; A.K.W.; C.L.; C.R.; D.of B.; E.L.; F.M.; H.V.; G.L.; M.B.; M.Bn.; U.B.	B.of W.; Dr.A.; D.J.; H.M.; La F.; C.O.; Eie.V.; M.R.; Mrs. J.L.; R.H.; L.V.H.; D. of E.	—	—	—
48	J. H. WHITE, Harleston.	1. Light loam. 2. Gravel. 3. Natural.	A.K.W.; C.L.; B.R.; M.L.; La F.; D.J.; A.C.; G.L.; D.of E.; L.V.H.; C.B.; C.O.	M.B.; A.R.; C.C.; T.M.; M.deC.; J.F.; S.V.; F.H.; Eie.V.; S. of W.; G. Tournier; S.F.	A.G.; G.Lse.; J.M.; H.J.; P.L.V.; V.V.; M.H.; Ed.M.; Pl.N.; La F.	—	D.of E.; LaF.; G. de D.; Me.B.; J.M.; T.M.; G.D.; Me.Lm.; C.M.; B.d'Or; C.F.; M.Cm.
NORTHAMPTONSHIRE. 49	F. BOSTOCK, Jun. Northampton.	1. Loam. 2. Clay. 3. Artificial.	La F.; M.deC.; B.R.; Mag.; L.V.H.; G.J.; S.V.; C.C.; U.B.; G.L.; V.V.; M.L.	—	—	—	—
NOTTINGHAMSHIRE. 50	W. H. FRETTINGHAM, Beeston.	3. Artificial. 4. N.W.	LaF.; M.L.; M.B.; A.C.; C.L.; E.L.; A.K.W.; U.B.; L.V.H.; B.R.; H.V.; C.C.	E.Y.T.; H.S.; M.deC.; G.L.; D.of B.; E.H.; M.Bn.; F.M.; M.R.; P. of W.; Dr. A.	La F.; M.B.; G.J.; D.J.; A.C.; B.B.; D.of T.; V.B.; B.N.; E.Y.T.; U.B.; P.A.	P.C.; R.H.; D.of B.; S.V.; M.Bn.; E.of P.; V.V.; A.K.W.; M.F.; B.R.; F.H.; L.V.H.	G.deD.; G.J.; B.N.; P.C.; D.J.; S.M.; Me.Lm.; J.H.; LaF.; M.B.; L.V.H.; V.B.
51	H. V. MACHIN, Worksop.	2. Clay. 4. S.	M.B.; M.L.; A.K.W.; C.C.; C.L.; LaF.; U.B.; Eie.V.; A.C.; B.R.; L.V.H.; E.L.	F.M.; E.of P.; M.deC.; D.J.; G.L.; D.of E.; C.R.; C.B.; H.M.; H.V.; H.J.; Me.V.V.	U.B.; LaF.; A.K.W.; B.N.; H.S.; H.L.; E.of P.; M.deC.; M.L.; G.D.; B.R.; G.J.; D. of B.	D.of A.; C.J.; C.L.; A.K.W.; M.R.; E.F.; C.C.; A.C.; V.B.; F.H.; EieV.; E.of P.	Mrs. H.T.; Pl.N.; M.H.; C.Bd.; J.M.; C.J.; W.W.; E.Lx.; A.A.; C.deC.; B.N.; J.C.

County	Name and locality	1. Soil 2. Subsoil 3. Drainage 4. Aspect	The best 12 H.P.s for show blooms	The next best 12 H.P.s for show blooms	The most useful 12 H.P.s for general use as cut flowers for decoration	The next most useful 12 H.P.s for general use as cut flowers for decoration	The best 12 Garden or Decorative Roses
NOTTINGHAMSHIRE—*cont.* 52	H. MERRYWEATHER Southwell.	1. Stiff loam. 2. Clay. 3. Artificial.	A.K.W.; A.C.; C.C.; C.L.; LaF.; L.V.H.; B.R.; G.L.; M.B.; L.M.F.; M.L.; U.B.	C.B.; C.R.; Dr.A.; D.ofT.; D.ofB.; E.L.; H.V.; M.R.; M.deC.; M.Bn.; Mrs.J.L.; V.B.	B.N.; D.J.; F.H.; G.J.; G.Lse.; G.deM.; LaF.; L.M.F.; P.C.; S.V.; U.B.; W.F.B.	A.R.; Cn.P.; C.V.V.; D.ofT.; D.ofC.; E.G.; H.S.; J.M.; F.L.; Me.V.V.; T.M.; P.A.	Au.C.; B.N.; Bl.M.; C.H.; L.G.; G.deD.; Ha.; LaF.; M.V.H.; S.M.; U.B.; W.A.R.
SOMERSETSHIRE. 53	A. H. GRAY, Newbridge, Bath.	1. Brask. 2. Lias stone. 4. S.W.	—	—	—	—	—
SUFFOLK. 54	H. BERNERS, Harkstead, Ipswich.	1. Gravel. 4. S.W.	U.B.; B.R.; C.L.; D.J.; E.L.; D.ofE.; G.L.; M.L.; A.K.W.; V.H.; M. de C.; LaF.	D.ofT.; F.M.; P.A.; Me.L.; L.M.F.; Eie.V.; Black Prince; R.H.; M.V.; H.V.; E.ofP.; S. of W.	G.J.; D.deV.; P.C.; V.F.; E.; M.deS.A.; D.ofC.; C.R.; S.Z.; J.B.; P.ofW.; J.S.	—	—
55	D. T. FISH, Hardwicke, Bury St. Edmunds.	2. Chalk.	La F.; G.L.; M.B.; C.B.; C.L.; E.L.; M.R.; M. de S.A.; B. of W.; V.B.; U.B.; H.S.	B.R.; D.ofW.; P.A.; Dr.A.; M.V.; A.C.; H.L.; Ed.M.; G.J.; D.J.; Me.V.V.; M.deC.	E.L.; J.B.; C.Mr.; Miss Ingram; B.R.; G.L.; Eie.V.; B.ofW.; A.D.; M.L.; S. of W.; M.M.	M.T.L.; J.S.M.; B.N.; J.M.; M.E.V.; P.L.; Marchioness of Exeter; J.S.; P.Ct.; M.N.; Ml.V.; Pl.N.	Pl.N.; T.M.; C.Lw.; Dr.S.; La F.; B.laR.; Ml.V.; C.O.; Eg.; C.C.; A.G.; D.ofE.; G.J.
56	A. FOSTER-MELLIAR, Sproughton, Ipswich.	1. Light loam. 2. Gravel. 3. Natural. 4. Open.	A.C.; A.K.W.; B.R.; C.L.; F.M.; H.M.; H.V.; LaF.; M.B.; M.L.; Mrs.J.L.; U.B.	C.B.; D.deM.; D.ofE.; D.ofW.; D.J.; LeH.; Eie.V.; M.R.; M.V.; M.N.; R.H.; X.O.	Dr.A.; D.ofE.; D.J.; F.H.; La F.; G.J.; M. de S.A.; M.L.; Eie.V.; P.C.; U.B.; V.B.	A.G.; C.C.; M.Bn.; H.S.; G.L.; Me.L.; Me.V.V.; M.de C.; S.V.; Mrs.H.T.; T.M.; G. de M.	—
57	G. PALMER, Drinkstone, Bury St. Edmunds.	1. Light loam. 2. Sandy gault. 3. Natural. 4. Open.	M.B.; A.K.W.; LaF.; A.C.; B.R.; E.L.; M.L.; C.L.; M.R.; D.ofE.; U.B.; M.deC.	L.V.H.; B.ofW.; C.C.; G.L.; C.B.; G.J.; Dr.A.; C.O.; H.V.; LeH.; A.L.; X.O.	A.L.; D.ofE.; LaF.; C.C.; M.H.; M.Bn.; S.V.; Me.L.; C.L.; G.L.; Mag.; E.Lx.	U.B.; M.V.; G.J.; M.N.; J.H.; B.N.; L.V.H.; P.M.; C.O.; A.W.; D.ofT.; T.M.	LaF.; A.L.; S.V.; Me.L.; M.H.; M.deC.; J.H.; Ab.C.; D.ofE.; J.L.; G.L.; L.V.H.

58	O. G. Orpen, West Bergholt, Colchester.	1. Light loam. 2. Gravel. 3. Natural. 4. S.W.	A.C.; C.L.; D.ofE.; H.M.; LaF.; L.M.F.; Eie.V.; G.L.; M.B.; M.L.; U.B.; Dr.S.	A.K.W.; B.R.; C.C.; F.H.; F.M.; L.V.H.; M.R.; M.N.; T.M.; P.ofW.; R.H.; V.F.	—	—	—
Surrey. 59	H. Appleby, Dorking.	1. Marly loam. 2. Fuller's earth. 3. Natural.	A.K.W.; A.C.; A.W.; B.R.; C.L.; C.O.; C.R.; D.ofE.; E.L.; La F.; G.L.; M.B.	X.O.; V.B.; U.B.; S.Z.; R.H.; S.ofW.; M.L.; Me. V.V.; L.V.H.; A.C.	B.N.; A.W.; C.B.; D.ofC.; G.J.; J.H.; U.B.; G.L.; La F.; R.H.; Me. L.	—	—
60	F. Baker, Reigate.	1. Green sand. 2. Gravel. 3. Natural. 4. N.W. to E.	A.K.W.; M.B.; LaF.; M.R.; C.L.; G.L.; E.Y.T.; D.J.; L.M.F.; E.L.; H.V.; A.C.	L.V.H.; M.L.; V.B.; D.of B.; Eie.V.; C. of P.; F.M.; C.C.; Eie.V.; P.A.; D. de V.; C. de R.	—	—	—
61	J. Brown, Great Doods, Reigate.	1. Sandy. 2. Sand. 3. Natural. 4. E. to S.E.	A.K.W.; LaF.; L.V.H.; D. of E.; Mrs. J.L.; M.B.; U.B.; E.L.; D.J.; C.L.; G.L.; C.C.	A.C.; B.R.; P.A.; F.M.; Eie.V.; V.V.; C.O.; M.de C.; Mrs. B.; C.R.; D. of B.; M.N.	D.ofE.; LaF.; D.J.; P.A.; G.J.; F.H.; P.M.; B.N.; A.S.; Me.V.V.; G.L.; P.C.	D.ofW.; J.H.; J.M.; C.S.; M.H.; Mag.; Me. I.P.; C.H.; Dr. A.; M.T.L.; A.G.; E.F.	D.of E.; LaF.; P.C.; B.N.; P.A.; P.M.; G.deD.; C.H.; Mag.; A.S.; F.H.; G.J.
62	A. Cheales, Reigate.	—	A.K.W.; M.B.; A.C.; S.ofW.; G.L.; LaF.; LeH.; U.B.; E.L.; M.L.; H.M.; F.M.	C.L.; M.R.; L.M.; X.O.; E.Y.T.; Mrs. J.L.; G.J.; Dr. A.; E.D.; R.H.; Me.V.V.; M.Bn.	—	—	G. de D.; R.M.H.; C.H.; W.A.R.; LaF.; C.d'H.; M.P.; B. 2; A.Y.; Ha.; U.B.; Me.B.
63	A. Constable, S. Norwood.	2. Clayey. 3. Artificial. 4. S. to E.	—	—	C.L.; B.ofW.; F.H.; J.H.; G.J.; A.A.; D. ofW.; P.C.; S.V.; Ml. V.	LaF.; A.C.; L.V.H.; V.V.; R.H.; B.R.; B.N.; D.of E.; Ed. M.	G. de D.; N.; C.L.; B.ofW.; F.H.; J.H.; G.J.; A.A.; D.of W.; P.C.; S.V.; Ml. V.
64	F. Cooper, S. Norwood.	1. Loam. 2. Clay. 3. Natural. 4. E. & S.	—	—	A.C.; A.K.W.; C.L.; D. of C.; G.J.; D. of E.; D. of T.; J.B.; La F.; J.F.; S.V.; B.M. (very good white).	B.R.; D.ofW.; F.H.; Me.L.; M.deS.A.; P.A.; S.Z.; G.L.; Eie.V.; J.L.; L.R.; E.B.	Ed. M.; C. d'H.; C.Lw.; J.H.; M.B.; A.W.; P.C.; Dean of Windsor; Triomphe de France; E.Ap.; D'O.; Oxonian.

County	Name and locality	1. Soil 2. Subsoil 3. Drainage 4. Aspect	The best 12 H.P.s for show blooms	The next best 12 H.P.s for show blooms	The most useful 12 H.P.s for general use as cut flowers for decoration	The next most useful 12 H.P.s for general use as cut flowers for decoration	The best 12 Garden or Decorative Roses
Surrey—*cont.* 65	W. J. Dart, Croydon.	2. Gravel. 4. S.	C.L.; La F.; M.L.; A.K.W.; U.B.; H.S.; G.L.; L.V.H.; M.R.; C.O.; E.L.; C.Co.	M. de C.; Me.V.V.; M.V.; P.A.; B.R.; L.M.F.; D. of B.; Me. I. P.; Cl. C.; M.E.V.; M.B.; E.Y.T.	—	—	—
66	T. B. Haywood, Reigate.	1. Loam. 2. Clay & sand. 3. Natural. 4. S.	A.C.; A.K.W.; C.L.; M.B.; E.Y.T.; D. of E.; E.L.; G.L.; La F.; L.V.H.; L.M.F.; Mrs. J.L.	C.C.; U.B.; Me.V.V.; Ed. M.; D. of B.; H.V.; V.H.; M.L.; Dr.A.; V.V.; G.M.; M. P. Wilder.	B. of W.; G.C.; J.H.; G.J.; C.R.; C.O.; D. of W.; S.V.; D.J.; Mrs.L.; X.O.; P. of W.	Ab.C.; M.H.J.; H.L.; M.T.L.; E.F.; A.G.; B.J.; Mrs.B.; C.Co.; D. of C.; E.; F.M.	—
67	W. Northover, Wimbledon.	1. Clay. 2. Do. 3. Artificial.	La F.; M.B.; C.L.; Dr.A.; C.C.; L.V.H.; U.B.; Me.V.V.; F.M.; B.R.; M.deC.; V.V.	G.L.; Bon; Me.I.P.; Mrs. J.L.; Le H.; C. de R.; P. of W.; Gen. Appert; A.C.; C.J.; P. Talabot; F.B.	La F.; B.R.; C.C.; M.B.; S.V.; U.B.; J. M.; M. de C.; G.Lse.; G.L.; G.J.; D.J.	F.H.; V.B.; C.B.; P. of W.; L.V.H.; V.V.; M.L.; A.K.W.; P.C.; H.J.; Eie.V.; C.L.	Me.V.V.; G. de D.; M.de.C.; LaF.; B.R.; J.H.; C.L.; Dr. A.; Pl.N.; J.M.; G.J.; C.J.
68	F. C. Pawle, Reigate.	2. Clay. 4. S.	A.K.W.; A.C.; L.V.H.; M.B.; C.L.; D.ofE.; B.R.; G.L.; La F.; U.B.; E.L.; Ab.C.	Dr.A.; V.V.; C.O.; C.R.; Mrs.B.; A.R.; D. of W.; M. de C.; M.N.; M.L.; Mrs.L.; M.C.V.	—	—	G.de D.; C.C.; J.M.; C.H.; S.V.; D.of E.; M. de S.A.; D. J.; Eie. V.; Me. V.V.; M.H.J.; J.H.
69	J. D. Pawle, Reigate.	1. Clay. 2. Do. 3. Artificial. 4. N.	A.C.; A.K.W.; B.R.; C.L.; D. of E.; D.J.; LaF.; L.V.H.; G.L.; Me.V.V.; M.B.; U.B.	Ab.C.; C.B.; C.C.; Dr.A.; D.ofB.; E.L.; E.Y.T.; F.M.; H.V.; M.L.; P.C.; V.V.	A.G.; A.R.; B. of W.; C.O.; C.R.; D. of W.; G.J.; S.V.; H.S.; J.H.; D.Mp.; D.R.	L.S.; L.M.F.; Le H.; M.H.J.; M.T.L.; Ml.V.; M. de C.; Mrs.B.; H.L.; Q.Q.; Mrs.H.T.; M.deS.A.	A.L.; B.N.; Cnt.; J.M.; E.F.; C. de S.; Dr.S.; D.de V.; Ed. M.; D. of C.; D. of T.; H.J.
70	F. Ross, Bletchingly.	1. Light loam. 2. Sand. 3. Natural.	—	—	—	—	—

Sussex. 71	J. Cheal, Crawley.	1. Loam. 2. Clay. 3. Artificial. 4. Open.	A.C.; A.K.W.; C.L.; D.deM.; H.V.; LaF.; L.V.H.; G.L.; M.B.; M.L.; U.B.; V.H.	B.R.; B.ofW.; C.O.; D. of E.; D. of W.; E.L.; F.M.; J.L.; M.V.; Eie.V.; C.R.; H.W.	C.L.; D.of C.; B.N.; C.C.; D.ofW.; G.L.; J.M.; Me.I.P.; V.B.; D.of E.; S.V.; Me. V.V.	—	A.G.; A.A.; B.N. C.C.; C.L.; D.of E. La F.; G.L.; G.J. U.B.; J.H.; S.V.
72	G. Piper, Pittdown, Uckfield.	1. Light loam. 2. Clay. 3. Natural. 4. S.	A.K.W.;P.A.;Ab.C.; C.L.; M.L.; M.B.; D.ofE.; A.C.; U.B.; P.C.; G.L.; H.M.	La F.; C.B.; Dr.A.; M.Bn.; F.M.; E.L.; S.V.; D.J.; B.R.; G.J.; H.V.; Mrs. J.L.	G.J.; P.C.; F.H.; P.A.; M.B.; B.N.; U.B.; D.J.; B.R.; La F.; M.Ny.; Dr. Ballion.	Ab.C.; G.L.; A.W.; Q.Q.; A.R.; E.F.; H.S.; J.M.; M.N.; S. de C.; Montault; M.A.R.; Jean Lambert.	—
73	A. Slaughter, Steyning.	1. Marly. 2. Chalk. 3. Natural. 4. N.W.	La F.; M.B.; C.L.; Me.V.V.; U.B.; D.J.; G.J.;A.K.W.;Eie.V.; D.ofE.; E.L.; G.L.	D.deM.; X.O.; M.R.; C.B.; C.O.; D.R.; C.R.;M.E.V.;LeH.; M.V.; M.deC.; A.C.	Eie.V.;G.Lse.;P.A.; Mrs. G. D.; V.H.; J.L.; M.L.; Ab.C.; B.R.; C.C.; D.of B.; L.V.H.	B.ofW.;Cn.P.;H.S.; E.F.;D.deC.;D.ofT.; D. of W.; E.Y.T.; F.H.; V.B.; M.Bn.; Bon.	Me. B.; R. d'Or; B. d'Or; Me. F.; W.A.R.;B.N.;M.V.H.; H.; Me.I.P.; Me.Lm.; B.L.; M.C.G.
Warwickshire. 74	Perkins, Coventry.	1. Light. 2. Clay & sand. 3. Natural. 4. S. open.	Mrs. J.L.; A.K.W.; A.C.; H.V.; P.C.; La F.; F.M.; M.B.; M.L.; C.L.; P.ofW.; E.D.	U.B.; C.Co.; C.deS.; B.ofW.; E.L.; M.V.; L.V.H.; P.L.; R.J.; H.W.E.; C.T.; D. Lamy; E.H.	A.K.W.; D.ofC.; Dr. A.; D.of E.; M.Bn.; P.C.; LaF.; L.V.H.; Eie.V.; M.B.; E.Y.T.; H.W.E.	C.L.; D.of T.; D.J.; E.B.; F.H.; G.J.; H.S.; J.C.; Me.V.V.; S.V.; U.B.; V.H.	Mrs. J.L.; C.C.; C.L.; Dr.A.; H.S.; H. W. E.; P.C.; LaF.; L.V.H.; M.de C.; M.L.; P.of W.
75	R. Ramsden, Knowle.	1. Gravel and clay. 2. Red sandstone.	La F.; M.B.; A.C.; G.L.; A.K.W.; U.B.; L.V.H.; B.R.; C.C.; C.L.; C.B.; M.de C.	D.of E.; G.J.; D.de V.; Eie.V.; M.R.; J.H.; Mag.; R.H.; A.W.; M.L.; L.M.F.; M.C.C.	La F.; M.B.; C.H.; C.B.; G.J.; B.N.; Mag.; C.L.; G.L.; J.H.; B.R.; D.of E.	—	—
76	J. A. Williams, Stratford-on-Avon.	1. Red loam. 2. Clayey. 3. Natural. 4. S.E.	A.K.W.;C.C.;Eie.V.; LaF.; G.L.; L.V.H.; C.L.; LeH.; U.B.; M.B.; M.deC.; A.C.	Ab.C.; C.D.; D.de V.; B.R.; D. of B.; E.L.; C.B.; Dr.A.; M.R.; D.J.; F.H.; M.N.	P.C.; C.L.; F.H.; A. K. W.; G. L.; P.A.; C.S.; La F.; C.C.; D. of T.; D.J.; U.B.	—	—

County	Name and locality	1. Soil 2. Subsoil 3. Drainage 4. Aspect	The best 12 H.P.s for show blooms	The next best 12 H.P.s for show blooms	The most useful 12 H.P.s for general use as cut flowers for decoration	The next most useful 12 H.P.s for general use as cut flowers for decoration	The best 12 Garden or Decorative Roses
WILTSHIRE. 77	J. HINTON, Warminster.	2. Chalk. 3. Artificial. 4. N.E.	M.B.; A.K.W.; C.L.; B.R.; A.C.; U.B.; La F.; F.M.; G.L.; M.R.; B. of W.; M. de C.	G.J.; V.B.; E.Y.T.; E.L.; Eie.V.; D.ofE.; M.L.; C.O.; M.Bn.; P.N.; D.J.; M.V.	J.M.; Cn. P.; D.J.; V.V.; J.H.; C.J.; G.J.; B.ofW.; B.R.; M.B.; C.L.; La F.	V.B.; Bon.; D.of T.; Cnt.; C.O.; D.of E.; M.Bn.; H.J.; G.Lse.; Eg.; P.N.; Me. de Cambaceres.	G.de D.; G.J.; J.M.; M.V.H.; C.H.; C.L.; M.B.; C.M.; S.; W. A.R.; C.Lw.; La F.
78	KEYNES WILLIAMS, Salisbury.	1. Light. 2. Chalk gravel 3. Natural.	A.K.W.; A.C.; F.M.; La F.; G.L.; M.B.; Mrs. J.L.; R. H.; U.B.; H.V.; L.M.F.; D. of B.	M.L.; E.Y.T.; B.of W.; C.L.; D. of V.; D.of E.; E.L.; Me. V.V.; S.V.; S.of W.; M.de S.A.; M.E.V.	D. of E.; A.K.W.; R.H.; G.L.; La F.; Me. V. V.; P. C.; Ab.C.; Bon.; V.B.; B.R.; C.C.	A.R.; B.J.; C.B.; C. R.; D. of W.; D.J.; M.Bn.; G.J.; H.S.; J.H.; L.V.H.; X.O.	J.M.; A.L.; W.A.R.; B.N.; D.of C.; D.of T.; Me. I.P.; R.M. H.; G.de D.; S.M.; O.M.; T.R.
WORCESTERSHIRE. 79	J. SLADDEN, Badsey, Evesham.	1. Stiff. 2. Clay. 3. Natural. 4. Sheltered.	A.C.; A.K.W.; C.C.; C.L.; D.of E.; LaF.; L.V.H.; G.L.; M.B.; M.R.; M.deC.; M.L.	B.R.; C.O.; Dr.A.; D.de V.; D.J.; E.L.; Eie.V.; M.Bn.; Le H.; Me.V.V.; Mrs. L.; S. of W.	A.C.; C.C.; B.R.; D.J.; F.H.; J.C.; J.H.; J.M.; La F.; M.R.; Pl.N.; O.Marix.	Ab.C.; B.P.; B.N.; C.B.; Cnt.; D.of E.; Me.V.V.; M.H.; S.V.; M.T.L.; V.V.; X.O.	A.V.; B.L.; C.F.; C. Lw.; C. Ch.; G.deD.; M.P.; Ch.; S.M.; B.Q.; Bos.; Lp.B.
YORKSHIRE. 80	HARKNESS, Bedale.	1. Sandy loam. 2. Sand. 3. Natural. 4. S.	A.K.W.; A.C.; C.C.; E.L.; F.M.; L.M.F.; La F.; G.L.; M.B.; M.R.; M.L.; U.B.	B.R.; C.L.; Dr.A.; D.ofB.; D.J.; G.J.; H.V.; L.V.H.; Eie.V.; M.V.; M.deC.; P.A.	A.K.W.; B.N.; D.ofE.; F.H.; G.Lse.; LaF.; G.J.; Cn.P.; G.D.; P.C.; R.J.; V.B.	—	A.K.W.; A.S.; G.J.; La F.; G.L.; M.L.; S.V.; C.K.; H.E.G.; M.V.H.; W.A.R.; J.D.
81	E. O. MAYNARD-PROUD, East Lynton.	1. Loam. 2. Limestone. 4. S.	P.M.; G.L.; A.C.; A.K.W.; J.H.; L.V.H.; D.J.; La F.; U.B.; H.S.; E.L.; B.M.	S.Z.; D.J.; C.L.; B.ofW.; H.V.; D.ofW.; M. H. J.; M. Bn.; D. of E.; L.V.H.; E.Y.T.; J.S.M.	P.M.; G.L.; A.C.; A.K.W.; J.H.; L.V.H.; D.J.; La F.; U.B.; H.S.; E.L.; B.M.	S.Z.; D.J.; C.L.; B.ofW.; H.V.; D.ofW.; M.H.J.; M. Bn.; D. of E.; L.V.H.; E.Y.T.; J.S.M.	P.M.; G.L.; A.C.; A.K.W.; J.H.; L.V.H.; D.J.; La F.; U.B.; H.S.; E.L.; B.M.
82	G. SWAILES, Beverley.	1. Various. 3. Artificial. 4. S.W.E.	A.C.; B.R.; C.L.; La F.; M.B.; U.B.; M.L.; G.L.; A.K.W.; E.D.; L.V.H.; C.C.	D.ofE.; D.ofW.; E.L.; B.ofW.; M.R.; M.deC.; S.V.; R.H.; Eie.V.; L.M.F.; H.V.; F.M.	La F.; G.J.; M.deC.; D.ofW.; D.ofE.; U.B.; D.ofB.; M.L.; C.L.; M.B.; F.H.; P.C.	Mag.; B.R.; A.C.; B.N.; D.J.; B.ofW.; A.K.W.; P.A.; M.R.; Dr.A.; C.B.; Eie.V.	La F.; G.J.; M.deC.; D.ofW.; J.M.; T.M.; D. of E.; G. de D.; C.Lw.; A.A.; Red Dragon; M.F.P.

83	A. Whitton, Bedale.	1. Loam. 2. Gravel. 3. Natural.	P. A.; A. K. W.; Mrs.J.L.; C.L.; U.B.; G.L.; E.Y.T.; E.L.; M.L.; M.V.; A.C.; L.M.F.	C.T.; Cn:P.; D.J.; Eie.V.; D. of B.; M.C.; V.B.; Mag.; P. of W.; D. of T.; M. de C.; B. of W.	—	—	—
Scotland. 84	W. Cocker, Morningfield, Aberdeen.	1. Sandy loam. 2. Gravel. 3. Natural. 4. S.	A.C.; A.K.W.; B.R.; D.ofE.; E.L.; J.S.M.; LaF.; M.B.; G.L.; M.L.; Mrs.J.L.; U.B.	C.L.; C.deR.; Dr.A.; C.R.; E.H.; H.M.; G.J.; M.H.J.; M.V.; E.Y.T.; P.ofW.; S.V.	A.C.; A.S.; B.M.; D.ofE.; B.R.; La F.; G.J.; Me.C.Maurice; Mb.M.; Mrs.G.D.; V.V.; Mrs.J.L.	A.A.; B.N.; C.Bd.; D.ofT.; D.J.; G.Lse.; P.C.; G.L.; Mag.; E.Y.T.; U.B.; J.G.	B.R.; B.N.; C.L.; D.ofE.; G.Lse.; G.de D.; La F.; Me.I.P.; Mrs.J.L.; Mag.; M.L.; U.B.
85	J. A. Paton, Castle Kennedy.	1. Sandy loamy. 2. Red sand. 3. Artificial. 4. S.E.	M.L.; B.R.; D.ofE.; La F.; C.C.; L.V.H.; E.L.; A.C.; C.L.; C.O.; A.K.W.; D.ofB.	D.ofW.; A.S.; L.M.F.; C.B.; M.Bn.; H.S.; D.J.; M.deC.; Dr.A.; U.B.; F.M.; Eie.V.	La F.; G.J.; F.H.; B.R.; D.ofE.; D.ofB.; Eie.V.; Dr.A.; L.V.H.; LeonRenault; M.Bn.; C.C.	—	—
Wales. 86	S. Barlow, Llandudno.	1. Limestone. 2. Do. 3. Natural.	La F.; A.K.W.; U.B.; M.B.; E.L.; M.L.; B.R.; P.C.; A.C.; C.L.; S.V.; G.L.	—	—	—	—
87	F. S. Hore, St. Asaph.	2. Clayey. 3. Artificial. 4. E. & S.	A.K.W.; A.C.; C.L.; E.L.; Eie.V.; H.V.; H.S.; LeH.; L.V.H.; G.L.; M.B.; M.deC.	B.ofW.; C.B.; C.D.; Dr.A.; D.ofB.; D.ofV.; D.J.; La F.; M.L.; P.C.; U.B.; L.M.F.	A.K.W.; A.C.; C.L.; E.L.; Eie.V.; H.S.; L.V.H.; G.L.; M.deC.; C.D.; D.deV.; U.B.	C.B.; La F.; M.L.; P.C.; Dr.S.; L.B.; C.C.; M.deS.A.; M.V.; H.V.; M.B.; D.J.	—
88	H. G. Roberts, Hope, Mold.	1. Clayey. 2. Clay. 3. Artificial. 4. E.	A.C.; A.K.W.; A.W.; B.R.; C.C.; C.L.; D.J.; G.L.; La F.; L.V.H.; P.C.; S.V.	C.deS.; F.M.; M.Bn.; H.V.; M.R.; Me.C.W.; D. of E.; M.de S.A.; M.B.; Eie.V.; V.V.; C.D.	A.C.; D.J.; Eie. V.; D.ofB.; B.R.; C.L.; D.ofW.; J.H.; J.M.; LaF.; P.C.; L.V.H.; V.V.	M.C.; M.R.; E.Y.T.; Me.I.P.; M.B.; M.L.; S.V.; D.ofT.; A.S.; E.M.; Le H.; S.Z.	C.C.; J.M.; V.V.; S.M.; D'O.; G.deD.; H.; M.V.H.
Saxony. 89	C. W. Mietzsch, Dresden.	1. Loam. 3. Natural.	La F.; M.B.; L.V.H.; B.R.; M.L.; A.K.W.; A.C.; C.C.; Mrs.J.L.; E.D.; X.O.; M.N.	F.H.; D.ofW.; C.L.; Eie.V.; P.C.; Me.V.V.; E.; Me.J.Hennesy; D.Mp.; F.Chaffolte; M. de C.	U.B.; La F.; M.B.; L.V.H.; A.C.; X.O.; F.H.; D.ofW.; Eie.V.; P.C.; E.ofP.; G.J.	L.C.; M.A.R.; S.V.; C.L.; E.A.; D.ofC.; F.B.; J.H.; M.deR.; A. P.; S. W. W.; Dingee & Conard.	Pl. N.; B.R.; M.L.; G.L.; S.M.; L.M.F.; C.Lb.; C.of P.; M.B.; Me.V.V.; L.V.H.; P.C.

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
1	—	A.O.; C.K.; C.M.; C.N.; H.E.G.; F.K.; I.P.; Me.Lm.; M.Nl.; S.d'A.; S.d'E.; T.B.	D.P.; J.D.; J.F.; Me. Cn.; M.V.H.; M. de W.; N.; P.J.; A.; Ps. of W.; S.T.L.; S.M.P.	—	—	—	—
2	—	M. Nl.; M.V.H.; S.d'E.; C.N.; C.M.; T.B.; F.K.; A.; Me. Lm.; I.P.; A.O.; S. d'A.	N.; J.D.; M.H.J.; Me. Cn.; M. de W.; H.E.G.; M. By.; C.K.; Ps. of W.; Ru.; J.P.; M. de S.	—	—	—	—
3	L'Ideal; G.C.; G.Lse.; J.M.; W.Bs.; A.L.; G.J.; P. of W.; V.B.; V.F.; Mrs. J.L.; H.E.G.	C.M.; M. Nl.; C.N.; H.E.G.; J.D.; N.; M. By.; M. Ho.; S. d'E.; T.B.; Ru.; E. Bo.	A.O.; M.V.H.; Az.; I.P.; Me. Lm.; C.K.; Ps. of W.; P.B.; F.K.; M. de W.; S.G.D.; S. d'A.	T.P.; G. de M.	—	—	—
4	M.L.; M.H.; B.N.; S.M.; M.T.L.; V.H.; S.V.; D.J.; M. Ch.; M.V.H.; C.K.; Mrs. H. T.	C.M.; M.Nl.; S.d'E.; M.V.H.; N.; M. By.; C.N.; J.D.; Ru.; I.P.; P.J.; A.O.	D.; Me. Lm.; T.B.; M. de W.; C.K.; A.; S.d'A.; Pan.; M.Mr.; S.P.N.; B.L.; M.Wz.	G.J.; La F.; D. of E.; G.L.; P.A.; Me. L.; V.V.; Me.V.V.; B. of W.; Dr. A.; C.B.; M.T.L.	C.B.; La F.; Dr. A.; Me. V.V.; G.L.; Me. L.; B. of W.; Ed. M.; D. de V.; M.T.L.; M. de C.; C.S.	U.B.; B.N.; C. de S.; M.B.; M. Bn.; S. of W.; J.H.; F.M.; C.L.; D.J.; D. de M.; Ml.V.	M. By.; Me. Lm.; M.V.H.; N.; Ru.; I.S.; St.; M. Ch.; M.F.; P.J.; W.F.B.; C.M.
5	—	D.; C.N.; H.E.G.; M.Nl.; M.V.H.; N.; S.d'A.; C.M.; B.L.; M.H.J.; A.; C.H.	—	—	—	—	—
6	—	C.N.; M. By.; N.; C.M.; I.P.; S. de E.; T.B.; M.Nl.; M. de W.; P.J.; M.V.H.; A.O.	J.D.; Me. Cn.; Ru.; Me. Lm.; H.E.G.; M.Wz.; C.K.; D.; E. de L.; S.d'A.; P.B.; S.P.N.	G.J.; D. of C.; Mag.; M. Bn.; D. of W.; D. of B.; M.R.; F.H.; R.J.; D. of E.; La F.; P.C.	—	—	—

7	V.F.; G.D.; F.H.; B.R.; S.d'A.; M.F.; C.K.; M. Ho.; D.J.; P.A.; M. de C.; C.	M.Nl.; C.N.; S.d'E.; C.M.; M. de W.; N.; I.P.; F.K.; M.V.H.; Me. Cn.; T.B.; C.K.	J.D.; S.d'A.; A.J.; Ps. of W.; H.E.G.; Ru.; E. de L.; A.O.; Me. Lm.; Bl. d'Or; M.H.J.; M.Mr.	S.V.; G.J.; G. de M.; B.R.; F.H.; D. of E.; La F.; B. of W.; D. of T.; L.M.F.; Eie. V.; P.A.	Me. L.; D. of E.; M. de C.; La F.; V.B.; F.H.; Eie. V.; L.M.F.; M.N.; C.D.; M.L.; B.R.	S.V.; D. of C.; D.J.; V.V.; D. de V.; B. of W.; Le H.; P.A.; P. of W.; Q.Q.; Mrs. J.L.; C.C.	Me. F.; C.M.; N.; T.B.; M.Ho; St.; C.K.; A.; F.K.; S.d'A.; Ru.; P.J.
8	—	*For a hot season.* C.N.; S.d'E.; C.M.; J.D.; N.; Bl. d'Or; Ps. of W.; I.P.; M.By.; M.Nl.; S. d'A.; E. de L.; C.K. *For a cool season.* A.O.; B. d'Or; D.; F.K.; M. de W.; M.V.H.; Ru.; S.P.N.; Me. Cn.; A.; T.B.; H.E.G.	—	—	—	—	—
9	C. Ds.; Cnt.; G.F.; Empress; P.M.; C.d'H.; C.Lw.; Chd.; C. de Lacepede; Lp.B.; M.P.; M.Hy.	M.Nl.; C.M.; G.D.; J.D.; C.N.; M. By.; Me. Lm.; M. de W.; M.V.H.; P.J.; N.; S. d'E.	T.B.; Me. Cn.; D.; E. de L.; I.P.; M.W.; Lu.; A.O.; Ru.; F.K.; S.P.N.; S. d'A.	B.R.; D. de V.; Dr. A.; D.J.; C.J.; Me. L.; Me. V.V.; M. de C.; M. de S.A.; M.L.; U.B.; V.V.	E.M.; A.C.; D. of W.; J.C.; La F.; D. of E.; M.B.; M.R.; B. of W.; J.H.; L.V.H.; M.H.J.	A.G.; C.O.; C.R.; E.L.; F.M.; G.J.; Mrs. B.; Pl. N.; P.C.; P.N.; M.Bn.; Ml. B.	N.; C.M.; Me. Lm.; I.S.; G.D.; T.B.; S. d'A.; P.J.; Me. F.; I.P.; S. d'E.; M.By.
10	—	H.E.G.; I.P.; Me. Cn.; C.K.; M.V.H.; J.F.; S.d'E.; S.d'A.; C.M.; C.N.; F.K.; J.D.	Pan.; M. By.; Me. Lm.; M. de W.; S.G.D.; M.W.; Ru.; T.B.; Ed.G.; Ps.V.; Ps. of W.; B. d'Or.	—	—	—	—
11	Au.C.; P.Y.; Ha.	A.O.; C.M.; C.N.; E. de L.; F. K.; H.E.G.; I.P.; J.D.; M. de W.; M.V.H.; M. Nl.; S. d'E.	Az.; M. By.; C.K.; M.H.J.; Me. Lm.; M.Wz.; Me. Cn.; M. Mr.; P.J.; Ps. of W.; S. d'A.; T.B.	—	—	—	—

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
12	—	Me. Lm.; I.P.; C.N.; H.E.G.; C.K.; C.M.; M.V.H.; S. d'E.; J.D.; A.O.; M.W.; S.G.D.	—	—	—	—	—
13	—	C.N.; M.V.H.; Ps. of W.; M.Ho.; M.Nl.; S. d'A.; S. d'E.; H.E.G.; D.; J.D.; M. de W.; M. By.	I.P.; A.O.; Ru.; Az.; C.M.; N.; S.P.N.; Me. A. Etienne; St.; T.B.; M.E.V.; M.W.	—	—	—	—
14	—	A.O.; C.M.; C.N.; H.E.G.; J.D.; J.F.; Me. Cn.; Me. Lm.; M.V.H.; M. Nl.; S. d'E.; S. d'A.	B. d'Or; B.L.; C.K.; I.P.; M.By.; Me.F.; M.H.J.; M. de W.; M.Wz.; Ps. of W.; Ru.; S.T.L.	—	—	—	—
15	—	M.Nl.; J.F.; S.d'A.; Me. Lm.; G. de D.; M.Wz.; C.M.; M.V.H.; H.E.G.; T.B.; C.N.; R.P.	—	—	—	—	—
16	—	M.Nl.; J.D.; S.d'A.; C.N.; N.; T.B.; C.M.; Me. Cn.; M.V.H.; I.P.; S. d'E.; C.K.	M. de W.; H.E.G.; E. de L.; M.By.; Bl. d'Or; M.Wz.; A.O.; Me. Lm.; F.K.; D.; S.P.N.; Ps. of W.	—	—	—	—
17	—	—	—	—	—	—	—
18	B.R.; Dr. A.; F.H.; Me. I. P.; M. Bn.; M.L.; Pl. N.; S.R.; S.M.; A.O.; Me. Lm.; S. d'A.	C.N.; D.; I.P.; J.D.; Bl. d'Or; M. Nl.; M. de W.; N.; Ru.; S. d'E.; S. d'A.; T.B.	C.M.; C.K.; H.E.G.; E. de L.; E.Bo.; F.K.; M. By.; Me. Cn.; M. Ho.; Me. Lm.; M.V.H.; Ps. of W.	—	—	—	—

19	—	C.N.; S. d'A.; N.; C.M.; M.V.H.; C.K.; J.D.; Me. Lm.; S. d'E.; M. de W.; I.P.; M. By.	—	—	—	—	—
20	—	—	—	A.L.; B.R.; C.S.; D. of W.; E. of P.; G.J.; Helen Paul; J.H.; J.M.; M.T.L.; Pl.N.; L.M.F.	A.G.; A.P.; A.S.; Cnt.; Dr. A.; Ed. M.; H.S.; G.L.; Mag.; M. de C.; U.B.; V.B.	C. de S.; C.O.; D. de V.; E.L.; M.Bn.; J.S.M.; M.E.V.; Me. L.; S.F.; M.B.; M.L.; S. d'A. de Sausal.	N.; M.Nl.; S. d'A.; S.; Ru.; A.O.; I.P.; I.S.; Me. Lm.; M. Wz.; M.S.J.; C.M.
21	H.; S.; C.F.; Genl. Appert; B.d'Or; St.; Marq. de Vivens; A.O.; Eg.; D. of A.; M.H.J.	C.M.; M. de W.; M.Nl.; F.K.; I.P.; J.F.; M.By.; Me.Lm.; M.V.H.; M.H.J.; S. d'A.; C.K.	E. de L.; H.E.G.; J.D.; Me.Cn.; M.W.; M.Wz.; Ru.; S.G.D.; T.B.; St.; A.; Ed. G.	—	—	—	—
22	Ds.; Hon. G. Bancroft; B.B.; G.F.; G. Gillimat; M.M.; A.D.; Le H.; Mrs. G.D.; P.V.; A.P.; R. C. Sutton.	C.M.; C.N.; J.D.; M.Nl.; D.; Me. Lm.; N.; P.J.; S. d'E.; S.d'A.; Ru.; M.V.H.	M.By.; I.P.; Me. Cn.; E.de L.; H.E.G.; St.; T.B.; S.P.N.; Ps. of W.; M. Mr.; P.B.; M.H.J.	G.J.; La F.; C.O.; F.H.; Dr. A.; D.J.; L.V.H.; M.F.J.; C.L.; S.V.; Eie. V.; V.V.	—	—	D.; N.; Ps. of W.; M.V.H.; S.; I.S.; St.; M.F.; S. d'A.; H.E.G.; Ru.; Me. Lm.
23	—	C.M.; S.d'A.; M. de W.; Me.Lm.; C.N.; L.M.F.; J.D.; A.O.; M. By.; M. Nl.; Ru.; M.V.H.	—	—	—	—	—
24	J.H.; H.; B.Q.; R.M.H.; A.V.; W.A.R.; M.A.C.; C.M.; C.F.; Me.Bo.; Me. I.P.; M. de W.	C.M.; C.N.; M.deW.; V.F.; M. Nl.; N.; M.V.H.; H.E.G.; D.; Me. Lm.; T.B.; S. d'E.	J.D.; Me.B.; S.T.L.; M.Wz.; I.P.; S.P.N.; P.J.; M.H.J.; Me. Cn.; Az.; F.K.; S.V.H.	G.J.; C.C.; La F.	La F.; C.C.; G.J.	—	N.; Me.F.; G. de D.; Me. Lm.; I.S.; M.V.H.; S. d'E.; S.T.L.; S.; C.M.; T.B.; M. de W.
25	—	—	—	—	—	—	—

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
26	—	Az.; I.P.; J.D.; M.V.H.; C.N.; M. Mr.; C.M.; M. de W.; H.E.G.; S. d'E.; A.O.; Me. Cn.	M.H.J.; Me. Lm.; M.Wz.; Ru.; S. d'A.; A.J.; Ps. of W.; M. By.; C.K.; A.; F.K.; S.T.L.	—	—	—	—
27	C.C.C.; Cnt.; Dr. A.; C. C. P.; Nardy Freres; P.N.; B. d'Or; C. de B.; T.R.; C. Ch.; N.; M.E.V.	M.V.H.; C.M.; C.H.; G. de D.; M. Nl.; S. d'A.; Me. Lm.; L.M.F.; N.; B.L.; M.Wz.; Me. F.	G.D.; L.; W.A.R.; Al.S.; D.; C.M.; L. Co.; R.d'Or; P.deL.; So.; S.P.N.; M.S.	D.J.; A.C.; A.A.; B.R.; G.J.; J.H.; J.M.; La F.; Me. C.W.; Me. V.V.; M.B.; V.V.	—	—	E. de L.; C.M.; A.O.; M.H.J.; Me. Cn.; M.V.H.; S.; S. d'A.; N.; Al. S.; M.S.; S. d'E.
28	—	C.N.; C.M.; M.Nl.; H.E.G.; I.P.; M. de W.; T.B.; P.B.; Me. Cn.; A.O.; S. d'E.; M. By.	Ru.; J.D.; D.; M.V.H.; Ps. of W.; N.; J.F.; S.G.D.; S. d'A.; C.K.; F.K.; E. de L.	—	—	—	—
29	D.J.; J.L.; J.M.; M.C.C.; Me.L.; Ml.B.; Mag.; M.deS.A.; M.N.; P.C.; S.V.; V.B.	C.M.; C.N.; D.; J.D.; Me.Lm.; M.Wz.; M.V.H.; N.; P.J.; S.d'E.; S.d'A.; M.Nl.	M.By.; B.L.; E.deL.; Me.Cn.; M. de W.; P.deL.; Ps.ofW.; Ru.; T.B.; L.M.F.; C.K.; I.P.	A.C.; B.ofW.; D.ofE.; M.Bn.; G.J.; LaF.; B.R.; G.L.; M.B.; M.deC.; S.V.; V.V.	A.C.; B.R.; B.ofW.; C.C.; C.L.; G.J.; D.ofE.; H.V.; La F.; L.V.H.; Mag.; V.B.	A.S.; Cnt.; C.O.; J.L.; J.H.; C.J.; M.K.; Me.V.V.; Fie.V.; E.L.; M.L.; S.V.	M.By.; A.O.; C.M.; D.; E.deL.; G.deD.; J.D.; Me.Lm.; M.Wz.; N.; P.J.; S.d'A.
30	S.d'A.; Me.F.; H.E.G.; A.Y.; Au.C.; O.M.; M.deC.; U.B.; Mb.M.; M.H.; Na.; H.	C.M.; S.d'E.; M.Nl.; N.; C.N.; M.V.H.; I.P.; Me.Lm.; A.O.; D.; Me.Cn.; S.d'A.	Az.; E.deL.; F.K.; H.E.G.; J.D.; Bl.d'Or; M.By.; M.deW.; P.J.; Ru.; S.P.N.; C.K.	—	—	—	—
31	—	C.N.; S.d'E.; M.Nl.; Ru.; C.M.; Me.Lm.; M.V.H.; J.D.; T.B.; N.; H.E.G.; Ps.ofW.	—	—	—	—	—

32	—	M.V.H.; A.; A.O.; C.M.; Ru.; S.d'A.; S.d'E.; M.Nl.; C.N.; B.L.; H.E.G.; R.P.	M.Wz.; D.; J.D.; Me.B.; N.; H.; E.deL.; I.P.; S.T.L.; T.R.; Me.Lm.; S.P.N.	—	—	—	—
33	S.M.; G.D.; V.F.; F.H.; D.J.; P.A.; Me. Lm.; D. of C.; S.V.; Ch.; H.; M.B.	C.M.; I.P.; S.d'A.; S.d'E.; Pan.; C.K.; C. N.; T. B.; Ru.; H.E.G.; M. Nl.; M.V.H.	N.; J.D.; M.deW.; Me.Lm.; A.O.; P.J.; Ps. of W.; D.; Me. Cn.; F.K.; E. deL.; M. By.	—	Me. L.; C.D.; Mrs. J.L.; H.M.; M.L.; U.B.; La F.; P.of W.; B.R.; D. of E.; G.L.; Eie. V.	—	—
34	G.J.; B.R.; C.; B.N.; D.of E.; Ed.M.; Me. B.; B.d'Or; S.; Me. Lm.; G.D.; M.G.B.	M.Nl.; S. d'E.; N.; P. J.; T. B.; C. M.; M. deW.; I.P.; J.D.; C.N.; P.B.; Ps. of W.	M.By.; C.K.; H.E.G.; J.F.; Me.Cn.; M.Ho.; Ru.; M.V.H.; E.Bo.; St.; S.P.N.; F.K.	Me.V.V.; F.L.; La F.; G.L.; G. de M.; Dr. A.; D. of E.; D. of T.; Mag.; Amer:Beauty; A.S.; B. of W.	A.S.; Me.V.V.; Mag.; C.B.; LaF.; G.L.; B.of W.; F.L.; M.L.; Me.L.; U.B.; V.B.	C. de S.; Ed. M.; G. of C.; H.S.; Lady Alice; M.de C.; V.V.; S.V.; Dr. A.; Mrs. J.L.; A.C.; Q.Q.	P.J.; N.; S. d'A.; Sou. de S. A. Prince T.B.; St.; S.; F.K.; C.M.; J.D.; Alphonse Karr; C.K.
35	—	—	—	—	—	—	—
36	Bl.M.; H.E.G.; B.d'Or; Me.Lm.; H.; Ru.; B.N.; D.ofE.; M.Bn.; V.B.; C.K.; D.J.	S.d'A.; H.E.G.; I.P.; M.V.H.; C.K.; A.O.; Ru.; M.deW.; T.B.; Me. Cn.; B. d'Or; Ps. of W.	Bl. d'Or; S.G.D.; S.P.N.; D.; M.Wz.; Mo.; C.N.; St.; M.By.; Me.Lm.; C.M.; Pan.	—	—	—	—
37	—	—	—	—	—	—	—
38	J.B.; A.C.; X.O.; G.J.; G.L.; C.O.; Dr.A.; B.d'Or; I.P.; M.deW.; A.O.; P.J.	T.B.; N.; I.P.; H.E.G.; M.Nl.; M.V.H.; C.N.; J.D.; S.d'A.; C.M.; S.d'E.; A.O.	F.K.; Me.Cn.; M.H.J.; C.K.; P.J.; D.; Ru.; P.B.; M.By.; Lau.; S.G.D.; Me.Lm.	G.J.; G.Lse.; V.V.; Me.L.; La F.; E.L.; H.J.; M.deC.; E.M.; M.L.; C.B.; U.B.	G.J.; G.Lsc.; V.V.; Me.L.; La F.; E.L.; H.J.; M.deC.; E.M.; M.L.; C.B.; U.B.	—	M.Nl.; Me.Lm.; N.; Az.; Me. F.; C.M.; I.S.; M.V.H.; M.By.; T.B.; W.F.B.; R.M.H.
39	—	C.N.; C.M.; M.Nl.; M. By.; H. E. G.; M.V.H.; N.; S.d'A.; J.D.; I.P.; D.; S.d'E.	—	—	—	—	—

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
26	—	Az.; I.P.; J.D.; M.V.H.; C.N.; M. Mr.; C.M.; M. deW.; H.E.G.; S. d'E.; A.O.; Me. Cn.	M.H.J.; Me. Lm.; M.Wz.; Ru.; S. d'A.; A.J.; Ps. of W.; M. By.; C.K.; A.; F.K.; S.T.L.	—	—	—	—
27	C.C.C.; Cnt.; Dr. A.; C. C. P.; Nardy Freres; P.N.; B. d'Or; C. deB.; T.R.; C. Ch.; N.; M.E.V.	M.V.H.; C.M.; C.H.; G. de D.; M. Nl.; S. d'A.; Me. Lm.; L.M.F.; N.; B.L.; M.Wz.; Me. F.	G.D.; L.; W.A.R.; Al.S.; D.; C.M.; L. Co.; R.d'Or; P.deL.; So.; S.P.N.; M.S.	D.J.; A.C.; A.A.; B.R.; G.J.; J.H.; J.M.; La F.; Me. C. W.; Me. V.V.; M.B.; V.V.	—	—	E. de L.; C.M.; A.O.; M.H.J.; Me. Cn.; M.V.H.; S.; S. d'A.; N.; Al. S.; M.S.; S. d'E.
28	—	C.N.; C.M.; M.Nl.; H.E.G.; I.P.; M. de W.; T.B.; P.B.; Me. Cn.; A.O.; S. d'E.; M. By.	Ru.; J.D.; D.; M.V.H.; Ps. of W.; N.; J.F.; S.G.D.; S. d'A.; C.K.; F.K.; E. de L.	—	—	—	—
29	D.J.; J.L.; J.M.; M.C.C.; Me.L.; Ml.B.; Mag.; M.deS.A.; M.N.; P.C.; S.V.; V.B.	C.M.; C.N.; D.; J.D.; Me.Lm.; M.Wz.; M.V.H.; N.; P.J.; S.d'E.; S.d'A.; M.Nl.	M.By.; B.L.; E.deL.; Me.Cn.; M. de W.; P.deL.; Ps.of W.; Ru.; T.B.; L.M.F.; C.K.; I.P.	A.C.; B.of W.; D.of E.; M.Bn.; G.J.; LaF.; B.R.; G.L.; M.B.; M.de C.; S.V.; V.V.	A.C.; B.R.; B.of W.; C.C.; C.L.; G.J.; D.of E.; H.V.; La F.; L.V.H.; Mag.; V.B.	A.S.; Cnt.; C.O.; J.L.; J.H.; C.J.; M.K.; Me.V.V.; Eie.V.; E.L.; M.L.; S.V.	M.By.; A.O.; C.M.; D.; E.deL.; G.deD.; J.D.; Me.Lm.; M.Wz.; N.; P.J.; S.d'A.
30	S.d'A.; Me.F.; H.E.G.; A.Y.; Au.C.; O.M.; M.deC.; U.B.; Mb.M.; M.H.; Na.; H.	C.M.; S.d'E.; M.Nl.; N.; C.N.; M.V.H.; I.P.; Me.Lm.; A.O.; D.; Me.Cn.; S.d'A.	Az.; E.deL.; F.K.; H.E.G.; J.D.; Bl.d'Or; M.By.; M.deW.; P.J.; Ru.; S.P.N.; C.K.	—	—	—	—
31	—	C.N.; S.d'E.; M.Nl.; Ru.; C.M.; Me.Lm.; M.V.H.; J.D.; T.B.; N.; H.E.G.; Ps.of W.	—	—	—	—	—

32	—	M.V.H.; A.; A.O.; C.M.; Ru.; S.d'A.; S.d'E.; M.Nl.; C.N.; B.L.; H.E.G.; R.P.	M.Wz.; D.; J.D.; Me.B.; N.; H.; E.deL.; I.P.; S.T.L.; T.R.; Me.Lm.; S.P.N.	—	—	—	—
33	S.M.; G.D.; V.F.; F.H.; D.J.; P.A.; Me. Lm.; D. of C.; S.V.; Ch.; H.; M.B.	C.M.; I.P.; S.d'A.; S.d'E.; Pan.; C.K.; C. N.; T. B.; Ru.; H.E.G.; M. Nl.; M.V.H.	N.; J.D.; M.deW.; Me.Lm.; A.O.; P.J.; Ps. of W.; D.; Me. Cn.; F.K.; E.deL.; M. By.	—	Me. L.; C.D.; Mrs. J.L.; H.M.; M.L.; U.B.; La F.; P.of W.; B.R.; D. of E.; G.L.; Eie. V.	—	—
34	G.J.; B.R.; C.; B.N.; D.of E.; Ed.M.; Me. B.; B.d'Or; S.; Me. Lm.; G.D.; M.G.B.	M.Nl.; S. d'E.; N.; P. J.; T. B.; C. M.; M. deW.; I.P.; J.D.; C.N.; P.B.; Ps. of W.	M.By.; C.K.; H.E.G.; J.F.; Me.Cn.; M.Ho.; Ru.; M.V.H.; E.Bo.; St.; S.P.N.; F.K.	Me.V.V.; F.L.; La F.; G.L.; G. de M.; Dr. A.; D. of E.; D. of T.; Mag.; Amer:Beauty; A.S.; B. of W.	A.S.; Me.V.V.; Mag.; C.B.; LaF.; G.L.; B.of W.; F.L.; M.L.; Me.L.; U.B.; V.B.	C. de S.; Ed. M.; G. of C.; H.S.; Lady Alice; M.de C.; V.V.; S.V.; Dr. A.; Mrs. J.L.; A.C.; Q.Q.	P.J.; N.; S. d'A.; Sou. de S.A. Prince T.B.; St.; S.; F.K.; C.M.; J.D.; Alphonse Karr; C.K.
35	—	—	—	—	—	—	—
36	Bl.M.; H.E.G.; B.d'Or; Me.Lm.; H.; Ru.; B.N.; D.ofE.; M.Bn.; V.B.; C.K.; D.J.	S.d'A.; H.E.G.; I.P.; M.V.H.; C.K.; A.O.; Ru.; M.deW.; T.B.; Me. Cn.; B. d'Or; Ps. of W.	Bl. d'Or; S.G.D.; S.P.N.; D.; M.Wz.; Mo.; C.N.; St.; M.By.; Me.Lm.; C.M.; Pan.	—	—	—	—
37	—	—	—	—	—	—	—
38	J.B.; A.C.; X.O.; G.J.; G.L.; C.O.; Dr.A.; B.d'Or; I.P.; M.deW.; A.O.; P.J.	T.B.; N.; I.P.; H.E.G.; M.Nl.; M.V.H.; C.N.; J.D.; S.d'A.; C.M.; S.d'E.; A.O.	F.K.; Me.Cn.; M.H.J.; C.K.; P.J.; D.; Ru.; P.B.; M.By.; Lau.; S.G.D.; Me.Lm.	G.J.; G.Lse.; V.V.; Me.L.; La F.; E.L.; H.J.; M.deC.; E.M.; M.L.; C.B.; U.B.	G.J.; G.Lse.; V.V.; Me.L.; La F.; E.L.; H.J.; M.deC.; E.M.; M.L.; C.B.; U.B.	—	M.Nl.; Me.Lm.; N.; Az.; Me.F.; C.M.; I.S.; M.V.H.; M.By.; T.B.; W.F.B.; R.M.H.
39	—	C.N.; C.M.; M.Nl.; M. By.; H. E. G.; M.V.H.; N.; S.d'A.; J.D.; I.P.; D.; S.d'E.	—	—	—	—	—

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
40	Lau.; C.H.; C.F.; I.P.; R.M.H.; F.H.; A.O.; C.C.; D.ofE.; M.deW.; V.B.; C.L.	I.P.; M.Nl.; C.M.; H.E.G.; C.N.; S.d'E.; C.K.; N.; M.deW.; J.D.; M.V.H.; Me.Cn.	M.W.; Ru.; P.J.; A.O.; M.By.; Lau.; S.P.N.; M. Mr.; Ps. of W.; S.d'A.; B.d'Or; M.H.J.	—	—	—	—
41	—	M.Nl.; D.; C.M.; G.deD.; S.d.'E.; H.; B.L.; D.; M.By.; M.V.H.; S.d'A.; N.	Smith's Yellow; M. Mr.; M. de W.; Me.Cn.	—	Me.C.W.; G.J.; J.M.; C.O.; B.R.	—	—
42	Mag.; C.deC.; Pl.N.; G.Lse.; A.A.; A.L.; J.M.; L.C.; Mrs.L.; P.C.; V.Vg.; B.N.	S.d'E.; C.M.; M.deW.; M.V.H.; N.; J.D.; S.d'A.; Me. LM.; M.Nl.; T.B.; C.N.; Ps. of W.	—	—	—	—	—
43	—	—	—	—	—	—	—
44	A.W.; C.S.; C.deC.; Dr.A.; D.ofB.; D.of E.; L.C.; Mrs.L.; Pl.N.; P.C.; T.M.; V.Vg.	—	—	—	—	—	—
45	—	—	C.M.; C.H.; G.D.; M. D.; Louise de Savoie; Me. Lm.; P. Guillot; J.F.; S.d'A.; M.E.L.; Abricote; Me.J.Schwartz.	A.G.; A.C.; D.R.; D.J.; L.D.; H.J.; Me.Alph.Lavellée; Me.C.W.; Mag.; Pl.N.; P.C.; U.B.	—	—	—
46	—	M.V.H.; M.Nl.; Ru.; N.; C.M.; Me.Lm.; J.D.; S.d'E.; H.; G.Lse.; S.d'A.; A.O.	—	—	—	—	—

47	—	C.M.; C.N.; F.K.; H.E.G.; M.H.J.; M.V.H.; N.; S.d'E.; T.B.; C.K.; M.Nl.; I.P.	E.deL.; J.D.; M.By.; Me. Cn.; M. de W.; M. Mr.; Ps. of W.; Ru.; P.B.; S.P.N.; S.d'A.; Bl.d'Or.	—	—	—	—
48	—	C.M.; Ru.; M.V.H.; J.D.; M.deW.; A.O.; M.H.J.; Me. Lm.; C.N.; B.d'Or; C.K.; S.d'E.	Ps.ofW.; I.P.; T.R.; M.By.; P.B.; F.K.; Me.Cn.; S.d'A.; M. Cm.; Me.B.; C.F.; Bou.	—	—	—	—
49	—	—	—	—	LaF.; W.F.B.; G.J.; D. of E.; C.C.; B.R.	—	—
50	—	M. de W.; Me. Cn.; Ru.; S.d'A.; P.J.; C.M.; M.V.H.; C.N.; T.B.; S.d'E.; H.E.G.; F.K.; M.Nl.	J.D.; I.P.; J.F.; M. Wz.; S.G.D.; N.; D.; E.deL.; A.O.; P.B.; M.By.; M.W.	—	—	—	—
51	B.R.; C.B.; C.C.; C.L.; D.of C.; Eie. V.; La F.; Me.V.V.; G. J.; U.B.; M.L.; Mag.	M.Nl.; N.; I.P.; C.M.; T. B.; C. N.; M. de W.; S.d'A.; S. d'E.; H.E.G.; P.J.; E.de L.	M.V.H.; D.; J.D.; Me.Cn.; M.Wz.; Ps. ofW.; A.; A.O.; Me. Lm.; Ru.; F.K.; M.E.V.	S.V.; LaF; W.F.B.; U.B.; M.R.; E.ofP.; M.N.; Me.V.V.; P.N.; M. de C.; Ed. M.; W.W.	W.F.B.; A.K.W.; C.C.; A.C.; LaF.; Eie. V.; B.R.; C.L.; G.J.; E.L.; D.of B.; U.B.	—	M.By.; C.M.; D.; M. Wz.; M.V.H.; T.B.; J.D.; I.P.; G.de D.; H.E.G.; P.J.; N.
52	A.V.; C.F.; O.M.; C.Ch.; F.; G.D.; M.G.B.; Me. Lm.; P.d'Or.; R.; Sh.Y.	C.M.; C.N.; I.P.; J.D.; H.E.G.; Me. Cn.; M.de W.; M.Nl.; S. d'E.; T.B.; N.; V.F.	A.O.; F.K.; D.; Bl. d'Or; Me. Lm.; M.V.H.; C.K.; P.J.; P.B.; Ps. of W.; S. d'A.; M.Ho.	A.G.; B.R.; F.L.; J.M.; La F.; G.J.; M.L.; M.deC.; D.J.; S.V.; U.B.; V.B.	B.R.; C.L.; Dr.A.; G.J.; H.M.; L.V.H.; LaF.; Eie.V.; M.B.; M.Bn.; P.A.; P.C.	A.C.; D.J.; G.de M.; E.G.; C.J.; G.L.; Me.V.V.; Mrs. J.L.; M.L.; S.V.; T.M.; V.B.	A.; A.O.; I.S.; D.; Ma.C.; M.F.; M.V.H.; C.K.; M.Ho.; N.; G. de D.; S.
53	—	M.Nl.; S.d'E.; C.M.; C.N.; J.D.; M.V.H.; S.d'A.; D.; F.K.; A.O.; N.; M.By.	Ps. of W.; H.E.G.; Me.Lm.; T.B.; C.K.; P.J.; Ru.; M.deW.; B.L.; G.de D.; I.P.; E. de J.	—	—	—	—

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
54	—	H.E.G.; S. d'E.; C.N.; M.V.H.; C.M.; J.D.; Me.Lm.; S. d'A.; N.; M.Nl.; M. de W.; I.P.	S.P.N.; M.W.; E.de L.; D.; M.By.; R.P.; Az.; A.O.; St.; Ps. of W.; Ru.; Mo.	—	—	—	—
55	P.B.; Boi.; C. de C.; P.C.; E. Lx.; F.M.; D.deV.; H.V.; Julie Gravais; M.C.C.; J.H.; An. D.; B.P.	A.O.; J.F.; C.M.; C.N.; S.d'E.; M.V.H.; Me. Lm.; M.By.; Ru.; M.Nl.; D.; N.	I.P.; R.P.; A.J.; Bou.; W.F.B.; Ps. of W.; M.T.L.; H.; T.R.; G.de D.; M. Wz.	A.C.; B.P.; B.of W.; Cnt.; C.de C.; D.de C.; M.Fo.; G.L.; M.B.; Me.Lillian; E. Y. T.; Souv. de L. Gower.	D.ofE. C.Mr.; C.O.; E.L.; J.H.; F.M.; LaF.; M.C.V.; J.M.; Pl.N.; V.V.; C.L.	Ab.C.; M.R.; S.V.; P.C.; D. of W.; Ed. M.; F.H.; D. of C.; P.A.; B.R.; C. de S.; V.B.	Ru.; C.M.; M.V.H.; G. deD.; H.; S.d'E.; M.W.; S.d'A.; N.; S.; A.O.; D.; I.S.; Me.F.
56	—	C.M.; C.N.; F.K.; H.E.G.; I.P.; M.By.; M. de W.; M. Nl.; M.V.H.; Ps. of W.; S.d'E.; S.d'A.	A.O.; D.; E.Bo.; C.K.; J.D.; Bl.d'Or; Me.Cn.; M.H.J.; M. Wz.; N.; S.P.N.; T.B.	—	—	—	—
57	M.R.; Mag.; Ed.M.; C.C.; C.L.; T.M.; D. deM.; A.W.; D.deV.; C.O.; F.H.; P.C.	M.Nl.; C.M.; M.By.; N.; S.d'E.; S.d'A.; H.E.G.; M.V.H.; C.N.; C.K.; J.D.; M. de W.	D.; Me.Lm.; A.O.; S.T.L.; M.Mr.; Bl. d'Or; I.P.; Ru.; M.W.; M.H.J.; A.; S.P.N.	Ab.C.; A.L.; C.B.; D.de C.; D.of E.; E. Lx.; M.H.; La F.; G.L.; Me.L.; M.de C.; P.C.	Ab.C.; A.L.; C.B.; D.de C.; D.of E.; E. Lx.; M.H.; La F.; G.L.; Me.L.; M.de C.; P.C.	C.C.; M.Bn.; G.J.; L.M.F.; D. de M.; Mag.; M.V.; Mrs. L.; P.A.; S.V.; M.N.; D. de V.	C.C.; M.Bn.; G.J.; L.M.F.; D. de M.; Mag.; M.V.; Mrs. L.; P.A.; S.V.; M.N.; D. de V.
58	—	M.Nl.; C.M.; C.N.; H.E.G.; I.P.; Me.Cn.; M. de W.; M.V.H.; N.; S.d'E.; S.d'A.; T.B.	C.K.; A.O.; D.; E. deL.; J.D.; Bl.d'Or; M.H.J.; Me. Lm.; P.B.; Ps. of W.; S.P.N.; Ru.	—	—	—	—
59	—	G.deD.; A.O.; C.M.; C.N.; E.deL.; G.D.; I.P.; J.D.; Me.Lm.; M.V.H.; N.; M.Nl.	M.By.; Az.; R.P.; D.; I.S.; M.Ch.; M.F.; M.Mr.; M.deW.; A.; Ru.; S.d'A.	B.R.; B.ofW.; C.C.; C.O.; D.ofE.; D.ofT.; G.L.; Me.V.V.; Pl.N.; S.V.; S.ofW.; T.M.	—	—	G.deD.; N.; B.L.; A.O.; D.; Goubalt; I.S.; S.; S. d'A.; Ru.; M.V.H.

60	—	H.E.G.; Ps. of W.; C.N.; C.M.; J.D.; S. d'E.; M. Wz.; M.V.H.; M.Nl.; C.K.; D.; A.O.	M.By.; F.K.; Az.; M.W.; J.P.; Marcelin Rhoda; S.d'A.; P.J.; E.deL.; I.P.; Me.Lm.; M.Mr.	—	—	—	—
61	M.H.; G.L.; M.P.; M.deC.; Ml.V.; A.G.; M.T.L.; Mag.; B.d'Or; C.S.; C.B.; B.R.	S.d'E.; J.D.; C.M.; S.d'A.; I.P.; H.E.G.; C.N.; Ps. of W.; Me.Cn.; M. de W.; M.By.; T.B.	M.V.H.; Ru.; F.K.; P.J.; St.; M.Wz.; C.K.; B.d'Or; A.O.; E. deL.; Me.Lm.; S.P.N.	—	—	—	—
62	—	M.Nl.; S.d'E.; N.; C.M.; B.L.; I.P.; J.D.; S.P.N.; P.deL.; C.K.; E.deL.; Me.B.	—	—	—	—	—
63	La F.; A.C.; L.V.H.; V.V.; R.H.; B.R.; B.N.; D. of E.; Ed. M.	G. de D.; Me.F.; N.; D.; S.M.	B.L.; H.; J.D.	—	—	—	—
64	—	—	—	—	—	—	—
65	—	—	—	—	—	—	—
66	—	M.Nl.; St.; T.B.; C.M.; C.N.; I.P.; J.D.; Me.Lm.; D.; H.E.G.; M.H.J.; A.	M.V.H.; A.O.; M.Wz.; N.; M.W.; P.B.; Ru.; S.d'E.; Me.Cn.; P.deL.; S.d'A.; C.K.	—	—	—	—
67	M.B.; Mag.; Me.I.P. H.J.; V.B.; S.V.; P.C.; Me.B.; B.L.; R.d'Or; B.d'Or; Mp.	M.deW.; I.P.; A.O.; B.L.; M.Mr.; F.K.; J.P.; B.d'Or; M.Wz.; Ru.; M.V.H.; C.M.	T.B.; G.D.; Me.B.; C.N.; Me.Lm.; H.E.G.; L.Co.; M.Nl.; A.J.; P.J.; S.T.L.; C.K.	B.R.; La F.; C.C.; M.B.; C.B.; C.L.; D.J.; G.J.; S.V.; G.L.; L.V.H.; U.B.	F.H.; G.J.; La F.; B.R.; C.C.; M.B.; S.V.; U.B.; Dr.A.; C.B.; F.M.; Eie.V.	G.L.; L.V.H.; V.V.; C.O.; S.R.; X.O.; G.Lse.; F.B.; P.A.; P.C.; P.of W.; Q.Q.	N.; M.deW.; M.V.H.; C.M.; T.B.; S.; S.d'A.; M.Nl.; D.; I.P.; M.Wz.; S.d'E.
68	—	S.d'E.; S.d'A.; C.M.; Me.Lm.; H.E.G.; I.P.; C.N.; B.d'Or; N.; F.K.; A.O.; Ru.	M.V.H.; M. By.; S.P.N.; M.W.; Ps. of W.; E.de L.; P.J.; A.; T.B.; M.Nl.; Az.; Me.F.	—	—	—	—

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
69	J.S.M.; L.Do.; C.J.; M.C.C.; M.E.V.; Me.G.Paul; Me.I.P.; Ml.B.; P.M.; V.B.; S.M.; G.D.	M.Nl.; C.M.; C.N.; I.P.; J.D.; M.deW.; M.H.J.; Me.Lm.; M.V.H.; Ps.of W.; S.d'E.; T.B.	A.O.; B.L.; D.; F.K.; G.deD.;M.By.; Me. Cn.; M. W.; M.Wz.; N.; Ru.; S.P.N.	—	—	—	—
70	—	—	—	—	—	—	—
71	—	A.O.; C.M.; C.N.; F.K.;M.Nl.;M.deW.; Me.Lm.; M.V.H.; H.E.G.; S. d'E.; P.J.; S.d'A.	—	—	B.ofW.;D.ofE.;J.H.; D.ofW.; G.J.; F.H.; La F.; C.L.; Me.L.; M.T.L.; Me.V.V.; Eie.V.	—	I.S.; Me.F.; Me.Lm.; M.V.H.; N.; H.E.G.; S.; P.J.; S.d'A.; St.; T.B.; E.deL.
72	—	A.O.; I.P.; C.M.; M.V.H.; T.B.; C.N.; N.; M.Nl.; D.; S.d'A.; S.d'E.; M.By.	A.; M.Mr.; H.E.G.; M.Wz.; J.D.; P.J.; Me. Lm.; S.P.N.; Me.B.;J.P.; M.deW.; Ru.	G.J.; La F.; L.Do.; F.H.; P.C.; Ab.C.; Me.L.; B.R.; M.L.; M.deC.; M.N.; V.V.	G.J.; L.Do.; La F.; F.H.; Me.L.; M.N.; M.L.; P.C.; V.V.; B.R.; B.N.; Mrs.B.	A.R.; E.L.; J.M.; J.H.; M.B.; M.deC.; M.Bn.; C.C.; Q.Q.; Mb.M.; H.S.; E.Y.T.	N.; D.; A.O.; S.d'A.; Me.F.; M.V.H.; S.; C.M.; M.Nl.; Ru.; Me.Lm.; I.S.
73	M.E.L.; M.Ch.; S.; A.O.; M. de W.; Me.Cn.;F.K.;S.d'A.; M.deT.; G.C.; C.T.; J.B.	I.P.; A.O.; C.K.; C.M.; B.L.; M.V.H.; Ps.of W.; Me.Lm.; M.Wz.; S.d'A.; F.K.; Az.	Me.B.; H.E.G.; B.d'Or; S.d'E.; C.N.; R.P.; M.deT.; J.P.; J.D.; J.F.; P.J.; Ru.	—	—	—	—
74	S.M.; V.H.; Mrs.H.T.; M.B.; D. of E.; Me.V.V.; G.L.; D.ofC.; D.ofB.; C.R.; B.R.; F.M.	C.N.; H.E.G.; P.J.; A.O.; J.D.; Me.Lm.; M.V.H.; M.Nl.; C.M.; C.K.; S.T.L.; Ps.ofW.	S.d'A.; Ru.; N.; M.H.J.; M. de W.; Ps.V.; E.deL.; B.E.; F.K.; J.F.	—	M.R.; D.ofE.; P.C.; S.ofW.; L.V.H.; LaF.; D.ofC.; B.R.; G.J.; C.L.; Eie.V.	—	N.; S.d'A.; C.M.; P.J.
75	—	Me.Lm.; C.M.; M.Nl.; M.V.H.; I.P.; F.K.; S.P.N.; C.K.; S.d'E.; C.N.; J.D.; M.By.	A.O.; Me.B.; B.L.; G.deD.; S.d'A.; J.F.; Ru.; M.Wz.; M. de W.; B.d'Or.; P.J.; D.	—	—	—	G.de D.; Me.B.; M.Nl.; D.

76	—	C.M.; I.P.; M.Nl.; S.d'E.; C.N.; M.By.; N.; T.B.; A.O.; Me. Cn.; S.d'A.; Me.Lm.	C.K.; D.; F.K.; St.; M.V.H.; J.D.; H.E.G.; M.H.J.; S.P.N.; E. deL.; M. de W.; Ru.	—	—	—	—
77	Bk.; Sh.; C. d'H.; C.C.P.; Me. Barny; M.P.; A.Y.; B.L.; R.Ab.; Bon.; Baron de Wassauaer.	M.Nl.; T.B.; C.M.; S.d'A.; B.L.; M.V.H.; M.By.; N.; J.D.; H.E.G.; I.P.; T.R.	Me.Lm.; A.O.; G. de D.; P.J.; R.P.; Ru.; A.; F.K.; D.; St.; M. de W.; Bl. d'Or.	—	—	—	—
78	C.F.; M.Nl.; A.V.; Bk.; S.; Au.C.; C.Ch.; R.; D.; Sh.; Y.L.; Ha.	N.; C.M.; I.P.; M. de W.; M. V. H.; S.d'E.; T.B.; M.Nl.; M. By.; C.N.; Ru.; S. d'A.	D.; E. de L.; F.K.; J.D.; M.H.J.; Me. Lm.; Mle. Guillot; M.Wz.; C.K.; M.Mr.; J.F.; G.D.	—	—	—	N.; C.M.; I.P.; Ru.; St.; P.J.; S.d'A.; T.B.; Me.Lm.; M. By.; C.N.; S.
79	B. 2; Bou.; B. d'Or.; Chd.; C.d'H.; H.; Me. Lontman; Na.; P.P.; P.V.; S.J.P.; W.A.R.	M.By.; A.O.; B.L.; C.M.; C.N.; D.; H.E.G.; I.P.; M.Nl.; N.; P.J.; S.d'E.	C.K.; J.D.; M.V.H.; Me.Lm.; M.de W.; Me. Cn.; M. H. J.; M.Wz.; Ru.; S.d'A.; S.P.N.; T.B.	—	—	—	—
80	—	A.O.; C.K.; C.M.; C.N.; I.P.; J.D.; Me. Cn.; M.Nl.; M.V.H.; N.; Ru.; S.d'E.	E.deL.; F.K.; Bl. d'Or.; M.By.; M.H.J.; M.Wz.; A.J.; P.B.; Ps. of W.; S.d'A.; S.P.N.; T.B.	—	A.S.; La F.; M.B.; E.Y.T.; U.B.; M.L.; B.R.; Me. L.; B. of W.; C. Lw.; V.B.; C. de S.	—	—
81	S.Z.; D.J.; C.L.; B.of W.; H.V.; D.of W.; M. H. J.; M. Bn.; D. of E.; L.V.H.; E.Y.T.; J.S.M.	I.P.; C.M.; M.V.H.; T.B.; Ru.; C.N.; F.K.; N.; G.D.; J.D.; Ps. of W.; M. de W.	Me.Lm.; A.O.; Me. Cn.; S.d'E.; H.E.G.; C.K.; P.J.; M.Ho.; S.T.L.; D.P.; S.P.N.; S.d'A.	—	—	—	I.S.; N.; S.; Me.Lm.; M.Ho.; D.P.; Me. Cn.; Ps. of W.; Ru.; H.; M.deW.; M.V.H.
82	Mrs.H.T.; B.R.; M.L.; F.H.; G.Lse.; Ml.V.; S.M.; Me.Lm.; U.B.; C.B.; B. of W.; Bon.	M.Nl.; A.O.; C.N.; I.P.; J.D.; T.B.; Me. Lm.; P.J.; S.d'E.; M.V.H.; N.; C.M.	M.By.; D.; F.K.; S. d'A.; M.de W.; S.P.N. Ru.; P.B.; C.K.; M.W.; Me. Cn.; Ps. of W.	—	—	—	—

No.	The next best 12 Garden or Decorative Roses	The best 12 Teas or Noisettes for show blooms	The next best 12 Teas or Noisettes for show blooms	The best 12 H.P.s for forcing	The best 12 H.P.s for pot culture	The next best 12 H.P.s for pot culture	The best 12 Teas for forcing
83	—	Ru.; M.deW.; C.N.; T.B.; Me.Cn.; M.By.; S.d'A.; I.P.; J.D.; M.Nl.; N.; C.K.	S.P.N.; F.K.; M.H.J.; S.T.L.; G.deD.; C.M.; M.Wz.; S.d'E.; A.O.; D.; Me.Lm.; M.Mr.	—	—	—	—
84	A.V.; A.S.; Ch.; D.J.; G.D.; H.E.G.; Ha.; J.G.; Mrs.G.D.; Me. Lm.; M.V.H.; V.V.	A.O.; C.M.; D.; H.E.G.; I.P.; M.deW.; Me. Lm.; M.V.H.; Ru.; S.G.D.; St.; T.B.	C.N.; Ed.G.; J.D.; Lu.; C.K.; M. By.; M.Wz.; P.J.; P.B.; Ps. of W.; S. d'A.; S. d'E.	A.A.; A.S.; B.R.; D.J.; M.Bn.; G.J.; La F.; G.L.; Mrs. J.L.; Mag.; Mb.M.; V.V.	A.S.; C.de S.; D. of E.; Ed. M.; J.S.M.; La F.; Me.L.; Me. V.V.; Mag.; M.deC.; Mrs. J.L.; V.V.	A.A.; A.L.; D.de V.; Dr.A.; D.J.; F.L.; F.M.; M.Bn.; H.S.; C.J.; Me. I.P.; T.M.	A.O.; C.M.; F.K.; I.P.; I.S.; Me.F.; Me. Lm.; M.V.H.; N.; P.J.; St.; T.B.
85	—	C.M.; Ru.; M.Wz.; T.B.; S.d'A.; M.V.H.; Me. Lm.; M. By.; C.N.; E. deL.; N.; I.P.	—	—	—	—	—
86	—	M.Nl.; C.M.; C.N.; S.d'A.; M.By.; T.B.; H.E.G.; G. de D.; Princess Royal; A.O.; D.; S. d'E.	—	—	—	—	—
87	—	A.O.; C.K.; C.N.; F.K.; I.P.; J.D.; N.; Me. Lm.; Me. Cn.; M.V.H.; H.E.G.; T.B.	B.L.; B.d'Or.; C.M.; E.de L.; M. By.; M. Wz.; M.Nl.; Ru.; S. d'E.; S.d'A.; Ps. of W.; S.G.D.	—	—	—	—
88	—	A.O.; Me.Lm.; M.Wz.; G.D.; N.; D.; M.V.H.; Ru.; C.M.; M.Ch.; J.D.; M.Nl.	P.J.; C.K.; H.E.G.; C.N.; Me.F.; M. de W.: S.d'A.; S.; I.P.; S.d'E.; F.K.; E.deL.	—	—	—	—

89	V.H.; E.F.; J.B.; D.of E.; Bon.; S.de Spa; C.O.; My.B.; E.L.; M.C.C.; L.R.; Sou.de L.Gambetta.	M.Nl.; P.J.; N.; Me. Lm.; S.d'A.; C.M.; M.V.H.; F.K.; T.B.; G.D.; Lu.; St.	G.deD.; B.L.; Me.F.; Mle. M. Gagnière; M. By.; Comtesse de Frigneuse; E. de L.; S. Hibberd; Archd. M. Immaculata; J.F.; Grossherz Mathilde; P.B.	H.V.; F.H.; C.C.; U.B.; M.B.; C.deB.; A.A.; Mag.; Hans Makart; M.M.; Me. V.V.; A.C.	L.V.H.; A.C.; M.B.; D.ofW.; H.V.; X.O.; Eie.V.; V.V.; La F.; C.C.; U.B.; B.M.	Alexis Lepère; E. of P.; F.H.; L.C.; M. de R.; S.W.W.; Duc d' Harcourt; M.F.J.; L.R.; B.N.; S. of W.; Wm. Rollison.	N.; S.; I.S.; M.C.G.; P.J.; P.deL.; M.By.; S.d'A.; C.M.; St.; M.F.; M.V.H.

No.	The best 12 Teas for pot culture	The most useful 12 Hardy Summer-flowering Climbers	The most useful 12 Hardy Autumn-flowering Climbers	The most useful 12 Hardy Pillar or Arch Roses	The best 24 Roses for dry gravelly, or sandy soil	The best 24 Roses for chalk or limestone soil	Summer Roses you consider of value not previously mentioned
1	—	—	—	B. d'Or; C.H.; R. d'Or; W.A.R.; Me. B.; P.S.W.; R.M.H.; B. 2; B.L.; M.Nl.; G. de D.; Me. I. P.	—	—	—
2	A.; S. d'A.; C.N.; S. d'E.; C.M.; Me.Lm.; H.E.G.; I.P.; Ru.; M. By.; M.V.H.; N.	—	—	—	—	—	—
3	I.P.; E. de L.; C.M.; T.B.; N.; J.D.; Bl. d'Or; St.; P.B.; A.; C.K.; M.S.J.; under glass avoid all two-coloured Teas, as M. de W.	F.Y.; Laure Davoust; T.G.; Ra.; A. Gy.; Sp.; F.P.; M.; Gr.; R.B.; Flora; Claire Jacquier.	W.A.R.; R.M.H.; R.O.; Me. B.; B. d'Or; E.Dy.; A.V.; C.F.; L.; Princess de Nassau; M.T.; G. de D.	M.P.; O.; R. d'Or; M.A.C.; B.2; Mta.; Me. I.P.; Mx. S.; G.L.; Souv. de P. Dupuy; C.C.C.; P.L.V.	Teas generally; Au. C.; A.Y.; light H.P.s, as B.R.; W. Bs.; G.L.; V.B.; C.C.; B.N.; D.de V.; also A.K.W.; La F.; Dr. H.; U.B.; Mrs. J.L.; Boi.; A.L.; C.B.; J.M.; D. of T.; J.H.; Julie Touvais; M. de C.; A.A.; Ed.M.; G. Lse. Avoid the very dark, as P.C., and those prone to mildew, as Me. Cn.; H.M.	—	C.C.P.; W.P.; O.M.; Bl. M.; L.G.; P.Y.; Ha.; R.M.; Sh. of sorts; Sweetbriars; Chd.; M. Hy.; Y.B.; Celestial (quite distinct from and far more beautiful than Maiden's Blush).

No.	The best 12 Teas for pot culture	The most useful 12 Hardy Summer-flowering Climbers	The most useful 12 Hardy Autumn-flowering Climbers	The most useful 12 Hardy Pillar or Arch Roses	The best 24 Roses for dry gravelly, or sandy soil	The best 24 Roses for chalk or limestone soil	Summer Roses you consider of value not previously mentioned
4	M. By.; M. Mr.; M.V.H.; Me. Lm.; I.P.; H.E.G.; S.d'A.; C.M.; T.B.; A.; J.D.; A.O.	M.Nl.; B.d'Or; B.L.; Cl. Cr.; G. de D.; C.J.M.; C.C.C.; P.L.V.; C.V.V.; W.A.R.; R.M.H.; M.	G.deD.; E.P.; Me.B.; P.L.V.; Cl.Cr.; O.; M.; A.V.; B.L.; C.P.W.; James Sprunt; G.C.	C.H.; D.Rr.; Ra.; L.Rr.; F.P.; P.L.V.; T.G.; E.P.; C.V.V.; C.J.M.; F.Y.	—	—	L.M.F.
5	—	—	—	—	—	—	Me.Bo.; O.M.; G.deD.
6	—	—	—	—	—	—	—
7	N.; C.M.; T.B.; C.K.; St.; F.K.; M. Ho.; I.P.; H.E.G.; A.; S. d'A.; P.J.	Am.; D.Rr.; F.P.; Sp.; G.; A.Gy.; L.O.; Ra.; Ps. M.; B. 2; Rm.; T.	R. d'Or; G. de D.; W.A.R.; R.M.H.; B. d'Or; T.G.; L.Rr.; M.Nl.; C.H.; C.F.; B.L.; Henriette de Beauvon.	T.G.; R.d'Or; W.A.R.; G. de D.; B. d'Or; R.M.H.; C.F.; A.V.; B. 2; G. de M.; F.P.; C.C.L.	—	—	Au. C.; P.Y.; Ha.
8	—	—	—	—	—	—	—
9	A.O.; H.; D.; Ds.; E. de L.; J.D.; P. de L.; N.; S.d'A.; Me. Cn.; G. de D.; Me.B.	A. Gy.; C. of L.; D.Rr.; El; Jessica; Queen; Ra.; A.d'Or.; F.P.; Rm.; T.G.; Am.	C.C.L.; C.J.M.; C.V.V.; C.C.C.; C.H.J.; C.P.W.; G.C.; C.H.; R.M.H.; G. de D.; Me. B.; W.A.R.	B.2; Br.; Chd.; Fu.; M.P.; J.; C.d'H.; M. Hy.; V. Bx.; Lp. B.; P.P.; C.H.	A.C.; B.R.; B.N.; C.C.; C.B.; C. de S.; C.O.; C.R.; C.L.; Dr.A.; Dr.S.; D. of B.; D.J.; E.L.; G.J.; H.S.; J.H.; La F.; G.L.; M.B.; M.R.; M.L.; M. de C.; S.V.	Ab. C.; A.C.; A.L.; B.R.; B.N.; C.C.; C.O.; C. de S.; Dr.A.; D.R.; D. of T.; D. of W.; D.J.; Ed.M.; E.L.; G.J.; G.C.; J.L.; J.H.; La F.; M.A.D.; C.J.; G.L.; U.B.	C.C.P.; W.P.; Gloire des Mosseuses; La.; O.M.; W.B.; C.Lw.; Y.L.; Au. C.; Ha.; P.Y.; Bl. M.; Me. E. Ory; Salet; Crimson du Roi.
10-13	—	—	—	—	—	—	—
14	—	B.d'Or; C.H.; G.de D.; M.A.C.; R.d'Or; W.A.R.	B. d'Or; C.H.; G. de D.; M.A.C.; R. d'Or; W.A.R.	—	—	—	—
15-17	—	—	—	—	—	—	—

18	—	—	—	—	—	—	—
19–21	—	—	—	—	—	—	—
22	M.V.H.; P.J.; C.M.; Me.Lm.; N.; S.d'A.; Ru.; S.P.N.; Me.Cn.; M. Mr.; Ps. of W.; M. By.	W.C. 1; W.C. 2; W.C. 3; R.M.H.; G. de D.; B.L.; R. d'Or; Me. B.; C.H.; C.J.M.; R.M.P.; Pink Gloire de Dijon.	—	—	Any strong growers if worked on seedling briar	Any strong growers if worked on seedling briar.	—
23	—	—	—	—	—	—	—
24	—	B. 2; T.G.; D. Rr.; Am.; Ra.; G.	F.; G. de D.; C.H.; Me. B.; B. d'Or; M.A.C.; R.M.H.; A.V.; B.N.; W.A.R.; L.; Mac. M.L.	G. de D.; F.; C.H.; R.M.H.; M.A.C.; B. N.; B. d'Or; W.A.R.; Me. B.; A.V.; Me. I.P.	J.H.; G. de D.; Ch.; C. Ch.; O.M.	—	C. Lw.; C. d'H.; Blanche Fleur; M.P.; Bl. M.; Ct.M.; Bk.; Y.B.; La.; Marie de Blois; J. Veitch.
25	—	—	R. d'Or; V.	R. d'Or; V.	—	—	R. d'Or; V.
26	—	—	—	C.F.; G. de D.; R.M.H.; Me. I.P.; B. d'Or; C.Lw.; Me. B.; F.P.; B.2; C.d'H.; P.P.	—	—	—
27	A.O.; Bl.d'Or; C.M.; D.; E. de L.; Me.F.; M.V.H.; N.; P.de L.; A.; S.; S. d'A.	Bk.; Y.B.; F.Y.; A.V.; B. d'Or; C.F.; L.; So.; C. de B.; G. de D.; D.; R.M.H.	—	G.J.; J.M.; C.V.V.; Pl. N.; Ml. V.; Me. V.V.; C.F.; B. 2; C. d'H.; J.; P.V.; G. de D.	An. D.; Cnt.; C.L.; C.V.V.; D.J.; G.J.; J.H.; LaF.; Me.V.V.; M.B.; S.V.; V.V.; S.M.; A.V.; C.H.; D.; G. de D.; S.; S. d'A.; C.C.P.; C.d'H.; B.2; P.V.; B. of W.	—	—
28	—	—	—	—	—	—	—

No.	The best 12 Teas for pot culture	The most useful 12 Hardy Summer-flowering Climbers	The most useful 12 Hardy Autumn-flowering Climbers	The most useful 12 Hardy Pillar or Arch Roses	The best 24 Roses for dry gravelly, or sandy soil	The best 24 Roses for chalk or limestone soil	Summer Roses you consider of value not previously mentioned
29	H.; I.P.; Me. B.; Me. F.; M. Mr.; M.V.H.; P. de L.; P.B.; Ru.; Soc.; S.P.N.; T.B.	C. Lw.; Me. I.P.; Ha. P.Y.; O.M.; B. 2; Countess de Lacepede; Double Margined Hip; Lp. B.; M.P.; Magna Rosea; Fu.	B.L.; G. de D.; Me. B.; R.M.H.; A.V.; C.F.; W.A.R.; B.N.; C.J.M.; F.; M.A.C.; C.H.	G. de D.; R.M.H.; B. 2; M.P.; A.V.; Fu.; C.H.; T.; Ra.; T.G.; F.P.; Lp. B.	S.J.P.; H.; J.D.; S.M.; La Sylphide; Me.F.; C.Sp.; M.V.H.; Me. Bo.; P.J.; Ru.; Ch.; S.; Soc.; B.L.; G. de D.; C.H.; C.K.; Ab.C.; W.A.R.; B.N.; D. of E.; G.J.; D.J.	S.J.P.; H.; J.D.; S.M.; La Sylphide; Me.F.; C.Sp.; M.V.H.; Me. Bo.; P.J.; Ru.; Ch.; S.; Soc.; B.L.; G. de D.; C.H.; C.K.; Ab.C.; W.A.R.; B.N.; D. of E.; G.J.; D.J.	—
30	—	—	—	—	—	—	C. Lw.; B.P.; R.; R. Ab.; M.G.B.
31	—	—	—	—	—	—	Br.; C.Lw.; B.2; B. de N.; V.Bx.; P.R.; C. d'H.; M.P.
32	—	—	—	—	—	—	—
33	T.B.; M.Nl.; St.; Me. Lm.; I.P.; N.; A.; S. d'A.; C.M.; M.V.H.; Ru.; W.A.R.	B.2; C.Lw.; C. d'H.; M.P.; P.V.; T.; Ra.; F.P.; Fu.; Am.; D.Rr.; Ps.M.	G. de D.; W.A.R.; B.d'Or; C.J.; P.L.V.; R. d'Or; S.J.P.; E.Dy.; R.O.; C.H.; C.F.; L.Rr.	—	—	—	C.C.P.; O.M.; P.Y.; Au. C.; S.P.; S.B.; Bk.; Y.B.
34	S. d'A.; I.P.; T.B.; F.K.; E. de L.; M. By.; P.J.; C.K.; A.; A.O.; M. Ho.; C.F.	B. 2; M.P.; C. d'H.; C.Lw.; G.; T.G.; A. Gy.; Flora; Princess Marie; F.P.; L.O.; F.Y.	C.H.; Me. B.; G. de D.; C.F.; W.A.R.; B. d'Or; G.C.; Me. I.P.; T.M.; C.C.C.; C.C.L.; R.M.H.	A. Gy.; Ra.; F.P.; L.O.; Gr.; R.B.; R.O.; C.F.; R.d'Or; W.A.R.; R.M.H.; B.d'Or.	—	G. de D. and all its family; W.A.R.	O.M.; C.C.P.; W.P.; A.Y.; Au. C.; P.Y.; Ha.
35, 36	—	—	—	—	—	—	—

37	—	—	—	P.L.V.; C.C.C.; M.A.C.; Jaune Desprez; A.A.; R.M.H.; B.d'Or; R.O.; G.deD.: G.ofW.; L.Rr.; A.Gy.	—	—	—
38	S.d'A.; C.M.; N.; M.By.; Me.F.; M.de W.; J.P.; Ru.; T.B.; Me.Lm.; S.; M.V.H.	C.Lw.; B.2; P.L.V.; S.J.P.; C.H.; R.M.H.; C.F.; W.A.R.; G.deD.; R.d'Or; B.d'Or; Me.B.	G.deD.; B.L.; B.d'Or; M.B.L.; A.V.; Me.B.; D.; Cl.Cr.; S.M.; C.H.; W.A.R.; R.M.H.	C.Lw.; Fu.; F.P.; A.V.; F.Y.; Chd.; El.	All Chinas and Hybrid Chinas.	All Moss Roses and strong H.P.s	C.Bd.; M.F.P.; Ducher; C.Ch.; Prize de St. Beuze; Me. Bo.; Marie Boisée; P.Y.; Me.I.P.; BaronGonella; O.M.; Bl.M.; L.G.; W.B.; Ct.M.; A. de M.; Gloire des Polyanthes; P.d'Or.
39, 40	—	—	—	—	—	—	—
41	S.d'E.; M.V.H.	P.V.; B.2; G.deD.; D.ofE.; J.H.; G.J.; C. d'H.; C. H.; Me.V.V.; M.Nl.	H.; S.M.; A.V.; G. de D.	P.V.; C.Lw.; C.d'H.; G.deD.; Black Boursault; Br.; J.M.; G.J.; J.H.: D.ofE.; C.H.; Me.V.V.	—	—	Au. C.; R.: R.Ab.; Ha.
42, 43, 44	—	—	—	—	—	—	—
45	—	G.deD.; B.2; W.A.R.; M.D.; C.F.; R.B.	—	—	—	—	—
46, 47, 48	—	—	—	—	—	—	—
49	C.M.; Me.Lm.; S.d'A.; M.Nl.; A.; S.; M.V.H.; I.P.; C.N.; St.; A.O.; N.	C.H.; G. de D.; R.M.H.	—	—	—	—	—

No.	The best 12 Teas for pot culture	The most useful 12 Hardy Summer-flowering Climbers	The most useful 12 Hardy Autumn-flowering Climbers	The most useful 12 Hardy Pillar or Arch Roses	The best 24 Roses for dry gravelly, or sandy soil	The best 24 Roses for chalk or limestone soil	Summer Roses you consider of value not previously mentioned
50	—	—	—	C.V.V. ; Climbing Giant; G.deD.; Jean Rosenkrantz; Bon. ; B.N. ; C.H. ; G.J. ; B.2 ; R.M.H.; A.W.; Me. I.P.	—	—	—
51	M.By. ; E.deL.; P.J.; M.deW. ; N. ; C.M. ; M.Wz. ; S.d'A. ; D. ; M.V.H.; S.d'E.; T.B.	C.F.;W.A.R.;R.d'Or. ; B.d'Or ; G.J. ; F.Y. ; G.deD.; L. ; B.L. ; Me.B.; R.M.H.; S.M.	S.M. ; C.C.C. ; O. ; G.deD. ; B.L.; C.H. ; La F.; C.V.V.; C.C.L.	B.L. ; C.H.; Me.B. ; G.J. ; G.deD. ; C.J.; Ml.V.;R.d'Or;B.d'Or; F.Y.; W.A.R.; C.C.C.	—	—	B.2 ; C.d'H. ; P.R.
52	A. ; C.M. ; Me.Lm. ; C.K.; Me.Cn.; M.Ho.; H.E.G. ; P.J. ; N. ; S.d'A. ; V.F.	A.Gy. ; Q.B. ; Ra. ; Am. ; In. ; A.d'O. ; F.P. ; Rm. ; L.Rr. ; A.V. ; R.M.H.	A.V. ; B.L. ; C.H.; C.V.V. ; C.C.C. ;C.F.; F. ; G.deD. ; L.Rr. ; M.A.C. ; R. d'Or. ; W.A.R.	A.d'O. ; F.P. ; Q.B.; Rm.;Ra.;Sp.;C.d'H.; C.Lw. ; G.deD.;C.H.; C.F. ; W.A.R.	A.R. ; B.R. ; C.B. ; O.M. ; Ct. M.; C.F.; C.H.;D.J.; D.; G.deD.; H.S.;La F.; Me.Lm.; Me. F. ; Mrs. J.L. ; M. V. H. ; G. L. ; Me.I.P.;M.Nl.;P.C.; Ru. ; S.M. ; U.B.	A.O. ; C.H. ; C.C. ; C.L. ; C.F. ; B.R. ; B.L. ; D.J.; D.ofT. ; Dr.A.; G.deD.;LaF.; H.S.; G.J.; L.M.F.; M.V.H. ; Me.Lm. ; H.E.G. ; M.B.; G.J.; P.C.; R.d'Or; T.M.; S.V. ; S.M.; W.A.R.; U.B.	B.2; Br. ; P.R.; Sh.; Y.Sh.; Y.L.;C.C.P.; Bl.M. ; W.B. ; La. ; W.P.
53, 54	—	—	—	—	—	—	—
55	Ps. of W. ; Bou. ; Me.Lm. ; M.By. ; M.Wz. ; E.deL.;I.P.; Bl.d'Or;Me.Cn.;J.D.; A. ; M.deW.	C.ofL.;Rm.;T.;D.Rr.; Sp. ; Ra. ; F.P. ; A.d'O.;DonnaMaria; P.L.V. ; Spectabile.	—	Chd.; C.d'H.;C.Lw.; Me. Barriot ; B. 2 ; Me.Crosy ; Ed.M. ; C.C.C. ; Me.B. ; H. ; G. de D. ; C.H.	—	—	O.M. ; Y.L. ; Au.C.; P.Y. ; Bk. ; Ch. ; C.Ch. ; G.R. ; Br. ; Chd. ; C.Lw. ; C.d'H.

56	—	—	G.deD.;B.L.;R.d'Or; R.M.H.	—	A.G.; Dr.A.;D.ofE.; D.J.; Ed.M.; E.H.; F.H.; J.H.; J.M.; La F.; C.J.; G.L.; M.R.; M. de S.A.; M.deC.; M.N.; P.C.; S.V.;M.V.H.;S.d'A.; Ru.	—	—
57	N.;M.V.H.;Bl.d'Or; Ru.; H.E.G.;M.By.; S.d'A.; St.; M.Mr.; C.M.; I.S.; A.O.	G.deD.; W.A.R.; T.R.; A.V.; C.H.; B.L.;R.d'Or;B.d'Or; America; C.F.; R.M.H.; H.	—	—	—	—	S.M.; C.deS.;Duchess of Norfolk; Ml. V.; A.G.; P.V.; H.J.; M.C.;M.F.J.; D.R.; M. de S.A.
58, 59, 60	—	—	—	—	—	—	—
61	—	A. Gy.; Ra.	—	G. de D.; P.V.; C. d'H.; Chd.; C.Lw.; C.H.; B.P.; T.M.; B. 2; Fu.; Mag.; J.M.	—	—	—
62, 63	—	—	—	—	—	—	—
64	—	—	—	—	—	—	W.P.; B. 2.
65	—	—	—	—	—	—	—
66	—	—	—	—	—	—	C.d'H.; B.P.; Chd.; Mrs. Griffiths; B. deN.; Kean; B. 2; P.R.; Br.; Geant des Batailles.

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67	C.M.; N.; T.B.; M. deW.; D.; J.P.; M. Wz.; M.V.H.; S.d'E.; S.d'A.; Ru.; A.O.	G.deD.; W.A.R.; R. d'Or.; B.L.; C.H.; Me.V.V ; J.H.; C.L.; C.V.V.; Me.B.; Ed. M.; R.M.H.	—	Ed. M.; Me. V.V.; J.H.; A.V.; G.deD.; Pl.N.; Bon.; C.V.V.; B.L.; G.J.; C.J.; C.H.	—	—	E.G.; E.; M.V.; H.S.; A.K.W.; Mrs. B.; M.L.; C.B.; X.O.; Eie.V.; C.O.; P.A.
68	—	—	—	—	—	—	—
69	—	—	G. de D.; M.T.; B. d'Or.; R. d'Or.; W.A.R.; C.H.; J.M.; Me.I.P.; B.L.; Me. B.; R.M.H.; C.F.	—	—	—	B.2; C.Lw.; C.d'H.; M.P.; P.V.
70	—	S.S.; M.fl.pl.; Alb.; Repens fl.pl.; Bk.; Y.B.; Am.; G.; F.Y.; G.deD.; L.; T.G.	—	R.C.; Sp.; M.; Bf.; F.P.; A.V.; C.H.; V.; C. Lw.; B. 2; P.L.V.; R.d'Or.	—	—	C.C.P.; Muscosa; Mo.N.; Ha.; P.Y.; Microphylla; Lc.; Sh.Y.; D.; P.; S.P.; Sh.
71	—	—	—	C.H.; R. d'Or.; G. deD.; G.C.; Me.I.P.; C.V.V.; A.V.; C.F.; R.M.H.; B.L.; B. d'Or.; W.A.R.	—	—	—
72	—	—	—	—	—	—	—
73	—	—	—	—	—	La F.; C.L.; Me. V.V.; C.R.; X.O.; C.O.; M.B.; Eie.V.; E.L.; M.deC.; M.V.; D.R.; U.B.; D.of E.; G.J.; M.R.; D.deM.; A.C.; A.K.W.; G.L.; D.J.; Le H.; I.P.	

74	—	—	—	—	—	—	—
75	—	—	—	—	La F.; M.B.; A.C.; C.L.; L.V.H.; G.L.; Me. Lm.; C.M.; M.V.H.; I.P.; U.B.; D. of E.; C.B.; C.C.; A.W.; M.R.; P.C.; Ab. C.; M. de C.; B.R.;A.K.W.;M.Nl.; Ru.; S.d'E.	—	—
76	—	—	—	—	—	—	—
77	—	—	—	—	—	—	J.; Charles Duval; B. 2
78	A.O.; J.D.; Me.Cn.; M. de W.; Me.Lm.; N.; M.V.H.; P.J.; T.B.; S.d'A; G.D.; D.	G. de D.; C.H.; N.; D.; Me. B.; Eie. V.; R.M.H.; M. Nl.; W.A.R.; C.F.; L.; M.B.L.	B.E.; T.R.; W.C. 1,2,3; J.M.; C.C.C.; G.C.; C.C.L.; F.L.; C.J.; H.J.; P.of W.; A.W.	W.A.R.; Bk.; Y.B.; G.deD.; Me.I.P.; N.; C.F.; F.Y.; A.V.; Acidalie; Am.; L.; C.H.; M.d'A.	A.K.W.; A.C.; F.M.; La F.; G.L.; M.B.; Mrs. J.L.; R.H.; U.B.; H.V.; L.M.F.; C.L.; M.L.; E.L.; D. of B.; N.; C.M.; M. de W.; M.V.H.; M.Nl.; M.By.; C.N.; Ru.; S.d'A.	A.K.W.; A.C.; F.M.; La F.; G.L.; M.B.; Mrs. J.L.; R.H.; U.B.; H.V.; L.M.F.; C.L.; M.L.; E.L.; D. of B.; N.; C.M.; M. de W.; M.V.H.; M.Nl.; M.By.; C.N.; Ru.; S.d'A.	—
79, 80	—	—	—	—	—	—	—
81	—	G.deD.; R.M.H.; B. d'Or.; W.A.R.; Sm.; H.; C.H.; La F.; J.H.; L.; C.C.L.; L.O.	G.deD.; R.M.H.; B. d'Or.; W.A.R.; Sm.; H.; C.H.; La F.; J.H.; L. C.C.L.; L.O.	G.deD.; R.M.H.; B. d'Or.; W.A.R.; Sm.; H.; C.H.; La F.; J.H.; L.; C.C.L.; L.O.	—	P.M.; G.L.; A.C.; A.K.W.; J.H.; L.V.H.; D.J.; La F.; U.B.; H.S.; E.L.; B.M.; S.Z.; D.J.; C.L.; B.of W.; H.V.; D.of W.; M.H.J.; M. Bn.; D. of E.; L.V.H.; E.Y.T.; J.S.M.	—

No.	The best 12 Teas for pot culture	The most useful 12 Hardy Summer-flowering Climbers	The most useful 12 Hardy Autumn-flowering Climbers	The most useful 12 Hardy Pillar or Arch Roses	The best 24 Roses for dry gravelly, or sandy soil	The best 24 Roses for chalk or limestone soil	Summer Roses you consider of value not previously mentioned
82, 83	—	—	—	—	—	—	—
84	A. O.; I.P.; J.D.; Me. Cn.; M.S.J.; Me. Lm.; M. Wz.; M.Mr.; M.V.H.; Ps. of W.; S.d'A.; St.	B. 2; C. Lw.; C.H.; C.V.V.; C.J.M.; G. de D.; Me. B.; P.L.V.; R.M.H.; R. d'Or; Sp.; W.A.R.	A.V.; C.H.; C.V.V.; G. de D.; H.; Mx. S.; P.L.V.; P. S. W.; R. O.; R. M. H.; W.C. 1; W.C. 3.	A.V.; B. 2; C. Lw.; C.H.; C.d'H.; C.V.V.; G. de D.; M. d'A.; P.S.W.; Ra.; R.O.; Sp.	B.R.; C. de R.; A.C.; A.R.; C. de S.; Dr.A.; D.deV.; D.ofE.; G.J.; J.S.M.; La F.; Me. I.P.; Mag.; Mrs. G.D.; Mrs. J.; Mrs. J.L.; P. of W.; V.V.; B.N.; B.M.; C.J.; M.V.H.; S.d'A.; V.F.	—	P.Y.; A.Y.; Au. C.; V.; Y.L.; C.C.P.; W. P.; Maiden's Blush; S.P.; Sh.; Sh.Y.; Ch.; C. Ch.
85	—	—	—	—	—	—	—
86	—	—	—	—	—	LaF.; A.K.W.; U.B.; M.B.; E.L.; M.L.; B.R.; P.C.; A.C.; C.L.; S.V.; G.L.; M. Nl.; C.M.; C.N.; S.d'A.; M.By.; T.B.; H.E.G.; G. de D.; Princess Royal; A.O.; D.; S. d'E.	—
87, 88	—	—	—	—	—	—	—
89	J.P.; F.K.; H.E.G.; S.V.H.; R.P.; Chas. Rovelli; M.V.H.; Me.F.; S.d'A.; M.By.; P.J.; N.	B. de B.; B. de P.; S.S.; R.C.; Alb.; Venusta Pendula; De la Grifferaie; El.; In.; T.; D.C.	Me. S. de Parabère; B. de B.; B. de P.; In.; El.; D.C.	—	—	—	—

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
1	—	S.d'E.; L.M.F.; N.; R.H.; M.E.V.; F.M.; A.K.W. Soil too hard and heavy—gault.	H.—A.O.; C.K.; C.M.; F.K.; H.E.G.; I.P.; D.P.; Me.Lm.; M.V.H.; J.F.; J.D.; S.d'A.	S. best.	*a*. Certainly not. *b*. For light sandy soil.	Very inferior for show purposes.
2	—	R.H.	H.—M.V.H.; Me. Lm.; M.H.J.; E. de L.; S. d'E.; S. d'A.; W.A.R.; F.K.; A.; A.O.; G. de D. and all its race.	S. make stronger growth and root more deeply.	*b*. For gravelly soil.	—
3	A.Y.; Punicea; Mta.; M.; R.; R.Ab.; He. L.; Da.; Rubrifolia; Lc.; Bracteata; I.	T.R.; Me.Cn.; M.B.; also D.R.; A.W.; M. Bn.; L.F.C.; C.O.; Me. Vidot; Me. V.V.; Ml. V.; Souv. d'A.Lavallée.	H.—Me.Lm.; S.d'A.; M.V.H.; H.E.G.; Pan.; A.O.; C.K.; Ru.; Bou.; M.C.G.; F.K.; Soc. D.—M.E.V.; B.L.	Maiden blooms on C, larger and earlier. S. longer lived, best for dry deep light soil, roots very deep. Roots of C. keep nearer surface, so best for cold soils.	*a*. No. *b*. No.	Do not give such perfect blooms.
4	—	—	H.—Pan.; G.D.; M. Mr.; C.K.; M.V.H.; Me. Lm.; M. Ch.; A.O.; Ru.; S. d'A.; E. de L.; G.deD. and its race. D.—T.B.; C.N.; N.; Adrien Christolphe; I.S.; H.E.G.	C.	*b*. M. for early bloom and light soil; B. for heavy soils and Teas.	Do not like them.
5	—	R.H.; S.d'A.; M.Nl. Soil too heavy.	H.—Me.B.; D.; N.; M.V.H.; B.L.	—	—	Healthier and freer bloomers.

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
6	—	—	—	S. for deep soils. C. for shallow.	*a.* No. *b.* For shallow poor soil.	Produce poorer flowers, inferior plants, and take longer.
7	—	—	H. — Me. Lm.; M.V.H.; C.K.; M. Wz.; S. d'A.; J.D.; F.K.; A.O.; H.E.G.; Bl. d'Or; A.J.; E. de L.; G. de D. and all its race.	S. best on dry and calcareous soils, especially for red and dark H.P.s and thin-petaled light ones. C. best on heavy and damp soils, and in rainy districts.	Teas must have B. For H.P.s it is entirely a matter of soil, climate, and rainfall. M. in rich old garden soil is a perfect stock, especially in the cool moist north; in dry hot districts and calcareous soils an utter failure.	Few do well. Poor growth; poor blooms. Very inferior.
8	—	—	H.—C.M.; Ps.ofW.; S.d'A.; A.O.; B.d'Or.; F.K.; Ru.; Me.Cn.; T.B.; H.E.G. D.—C.N.; S.d'E.; J.D.; Bl.d'Or.; N.; I.P.; M.By.; M.Nl.; D.	—	—	—
9	R.; R.Ab.; R.B.; Si.; Ap.; Biggeriana; I.; Mta.; Pomifera; Pul.; Carolina; P.S.W.	M. de M.; Ju. C.; M.B.K.; X.O.; Marie L. Pernet; Olivier Delhomme; H.W.; My.B.; L.R.	H.—H.; Me.Lm.; G.deD.; Me.B.; R.P.; Ds.; E. de L.; G.D.; J.D.; J.F.; Me.Cn.; Me. Maurin. D.—H.E.G.; Lu.; Ma.C.; Ps.ofW.; Na.	C. make stronger plants and finer blooms.	*b.* For light soils and early blooms. Using both stocks gives a succession.	Weaker wood and less substance in flowers.

10	—	E.L.; Benoit Comte; H.V.; E. de L.; M. Wz.; N.; S.d'E.	**H.**—M.V.H.; Me. Lm.; H.E.G.; Pan.; J.D.; C.K.; S.d'A.; F.K.; Me. Cn.; S.G.D.; V.F.; M. de W. **D.**—S.d'E.; C.M.; Ps.of W.; N.; T.B.; D.; C.N.	No noticeable difference.	*b.* For light soil.	Do not fancy O. R.
11	—	C.T.; R.H.; S.Z.	—	—	—	Best for some—*e.g.*, E.L.; U.B.; &c.—but smaller blooms.
12	—	A.K.W.	—	—	*a.* No.	Blooms come thin.
13	—	L.V.H.; A.K.W.	**H.**—D.; S. d'A.; M.V.H.; C.N.; A.O.; H.E.G.; M.By.; J.D.; Ru.; B. d'Or.; Me. B.; C.K.	Equal.	*a.* No.	Not nearly so good.
14	—	—	—	S. better plants, lasting longer.	*a.* No.	Not bloom nearly so well, but useful for free bloomers—*e.g.*, M.B.
15	—	—	—	—	*b.* May be for light soil.	Some—*e.g.*, La F.; C.L.; P.C.; Benoit Comte—do as well or better.
16	—	C.M.; D.of B.; H.V.; C.N.	**H.**—I.P.; A.O.; E. de L.; C.K.; Me.Cn.; M.V.H.; Me.Lm.; J.D.; M.Nl.; S.d'A.; M. de W.; M.By.	S. best.	*a.* For H.P.s. *b.* For light soil.	Not so good and slower.

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
17	—	My.P.; R.H.; A.W.; F.H.; Mrs. H.T.; Mrs. J.; B. of C.; A.K.W.	—	—	—	—
18	—	D. of B.; H.V.; Louise Peyronny; Me. C.W.; M. Dr.; M. N.; Ml. B.; My. B.	H.—All the Dijon race; A.O.; F.K.; H.; Me. Cn.; M. de W.; Me.F.; Me.Lm.; M.Wz.; M.V.H.; Ru.; S. d'A.; C.K.	C. gives better crop; greatly preferred.	*a.* No; but for strong-growing H.P.s as good as any other.	Do not fancy them.
19	—	C.T.; A.K.W.; L.M.F.; only good as maidens. Ae.D. always weak. All constitutionally weak.	—	C. for H.P. maidens bloom earlier; otherwise S. far best.	*a.* B. suits all, M. none. *b.* No.	Valueless for exhibition; few flowers and small.
20	—	—	—	—	—	In few cases equal, in fewer superior.
21	—	S.d'E.; N.; C.N.; Ps. of W.	H.—M. de W.; Me. Lm.; M.V.H.; Ru.; I.P.; P.J.; S. d'A.; Me.Cn.; J.F.; F.K.; H.; G. de D.	C. preferred.	*a.* No. *b.* No.	Much prefer B.
22	—	—	—	S. best for light soil, root deeper. C. bloom earlier.	*b.* Does best on heavy soil; should not be used on light.	Inferior growth and blooms.
23	—	—	—	—	—	Prefer B.

24	R.; R.Ab.; Au.C.	D.; C.N.	H.—G. de D.; H.; Abricote. D.—D.; L.	S. more root vigour, but vary, and some inferior. C. from good stock all good alike.	*a.* For H.P.s. *b.* On poor soil.	Superior, but seldom so vigorous.
25	—	W.F.B.; M.Nl.	H.—H.; M.By.; F.K.; A.O.; H.E.G.; Me.Lm.; C.M.; M.V.H.; S.; T.B.; P.J.; G. de D.	—	*a.* For H.P.s. *b.* On light soil.	Prefer B.
26	—	L.M.; H.W.; H.V.; L.V.H.; X.O.; My.B.; D. of B.; E.F.	H.—I.P.; Me.Lm.; M.V.H.; M.By.; Me. F.; M. Wz.; Etoile d'Or; C.K.; M.deW.; H.E.G.; A.O.; S.d'A. D.—C.N.; J.P.; A.J.; J.D.; D.	—	*a.* No. *b.* No.	Do not bloom so well, and take so long.
27	—	—	H.—Al.S.; B.L.; C.M.; D.; G.deD.; J.D.; M.E.V.; M.S.; N.; R.M.H.; S.; S.d'A.	—	*a.* No. *b.* No.	Prefer them.
28	—	—	H.—C.N.; H.E.G.; Me.Lm.; Bl.d'Or; M.By.; Me.Cn.; Ru.; M.Mr.; S.P.N.; T.B.; C.M.; I.P. D.—A.J.; M.Fo.; M.E.V.	About equal.	—	—
29	Au.C.; A.Y.; Hardii; R.; R.Ab.; G.R.; Y.L.; R.M.; P.S.R.; P.S.W.; P.; Sh.; Sh. Y.	C.T.; M.Fo.; H.M.; M.C.; M.N.; My.P.; M. de M.; X.O. Bad constitution.	H.—B.L.; G.deD.; E.deJ.; H.; J.D.; J.F.; Me.B.; Me.C.Noirey; Me.F.; M. Wz.; Me. Lm.; M.V.H	C. roots better; prefer for H.P.s. S. for the weaker Teas.	*a.* Decidedly for H.P.s and all hardy roses. *b.* On all well-drained soils.	Very inferior; no use save on light, sandy soils.

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
30	R.; R.Ab.; M.G.B.	—	H.—B.d'Or; Me.Lm.; M.V.H.; S.d'A.; C.K.; H.E.G.; Ru.; C.M.; N.; S.T.L.; J.D.; F.K.	Equal.	*a*. For most. *b*. Undoubtedly on light, thin, or chalky soils.	Very inferior.
31	—	—	—	C. superior.	—	—
32	—	—	—	—	—	—
33	—	—	H. — Me. Lm.; M.V.H.; C.K.; M. Wz.; S. d'A.; J.D.; H.E.G.; F.K.; G. de D.; Pan.; E. de L.; E. Dy. D.—N.	C. best on deep, S. on shallow soils.	*b*. M. best for deep medium soil and for early blooms; B. best for light and heavy soils, and for Teas.	Flowers are poorer.
34	Lc.; P.S.W.; P.; R.B.; Au. C.; A.Y.; Mta.; Mo.N.; I.; Si.; Pul.; R.; R. Ab.	—	H.—M. By.; A.O.; M.V.H.; Me. Lm.; S. d'A.; E. de L.; S. d'E.; F.K.; J.D.; Me. Cn.; P.J.; Ru. D.—N.; M. de W.; Bl. d'Or; Ps. of W.	C. gives earlier blooms; after first year no difference.	*b*. For light hungry soils.	Many very difficult to get—*e.g.*, B.R. and family. In two or three years all roses are virtually O.R.s.
35	—	—	—	S. preferred.	*b*. M. did fairly on chalk, but on changing to loam and clay it died or became a prey to every disease.	From close observation think them fair for some Teas, but decidedly inferior for H.P.s.
36	—	M.Dr.; X.O.; R.H.; J.H.; C.N.	—	S. preferred.	—	Inferior, except, *e.g.*, La F.; C.C.

37	—	R.H.; A.K.W.; C.D.; Comte de Montemart.	H.—A.O.; B.L.; B.d'Or; R.P.; Me.B.; M.Ch.; Me.Lm.; M.V.H.; Ru.; S.M.P.; Me.F.; Auguste Oquier D.—C.M.; M.Wz.; S.d'E.; Bl.d'Or.	C. easier and quicker, otherwise equal.	—	—
38	R.; R.Ab.; A.Y.; Au. C.; P.SW.; Red Damask; He. L.; Mo. N.; I.	H. V.; Princess Tremoille; Empress Eugenie.	H.—G.deD.; Me.B.; Me.Cn.; Me.Lm.; M. de W.; M.By.; M.V.H.; H.E.G.; J.D.; C.H.; W.A.R.; H.; Lau.; G.D. D.—Me.F.; Ru.; L.; So.; P.B.; N.; Az.; C.N.; M.C.G.	C. earlier blooms. S. later, and stand drought better.	*a.* No. *b.* For very stiff.	Very few sorts succeed, and no dark ones.
39	—	—	—	C. preferred; better roots, freer from suckers.	*a.* No; inferior for all purposes.	—
40	—	—	H.—B.d'Or; Me.B.; H. E. G.; M.W.; R.d'Or; H.; S.d'A.; M.Mr.; M.V.H.; C.K.; Ps. of W.; Me. Lm.	S. preferred.	—	No difference observed between O.R.s and Budded on Seedling B.s.
41	R.; Au.C.; Ch.; I.S.	H.M.; H.V.; My.P.; Le H.; L.M.F.; perhaps too nearly crossed with relatives.	H.—G.deD.; B.L.; H.; D.; M.V.H.; S.d'A.; N.; Me.Lm.; Me. Cn.; M. de W.; Me. F.; I.S.	S. Better roots, stronger Blooms.	*a.* Yes, except for weak growers. *b.* For light soils.	Take longer to grow and give good blooms. If budded on M. soon become O.R.s.
42	—	H.V.; S.Z.; C.T.; X.O.	—	C. more fibrous roots.	*a.* Yes, for strong, smooth-wood sorts—*e.g.*, U.B.; P. of W. *b.* For light, sandy soil.	Inferior for first three years, then equal.

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
43	—	—	—	—	*a.* Not as a rule.	Superior in all ways.
44, 45	—	—	—	—	—	—
46	—	—	D.—C.N.	—	*a.* M. answers very well; De la Grif. liked much.	Only strong sorts will grow—*e.g.*, B.R.; D. of E.; La F.; U.B.
47	—	My. B.; R. H.; Ps. of W.; X.O.; L.M.F.; H.M.	H.—Ru.; A. O.; M.V.H.; C.K.; C.M.; F.K.; P.B.; H.E.G.; S. d'A.; J.D.; Me. Lm.; D.	Equal.	—	—
48	—	M.B.; X.O.; R.H.; T. P.; H.M.	H.—G.deD.; Me.B.; A.O.; S.d'A.; Bou.; C.M.; J.D.; Me.Lm.; M. Cm.; B. d'Or; Ru.; M.H.J. D.—S. d'E.; I.P.	Equal.	*a.* No. *b.* No.	Prefer for H.P.s.
49	—	—	H.—Me. Lm.; M.V.H.; G. de D.; B.L.; C.N.; St.; S.; M.T.	—	*a.* For H.P.s.	—
50	—	S.Z.; C.T.; Ml. B.; H.L.; H.W.	H.—Me. Lm.; J.D.; E. de J.; E. de L.; C.M.; M.By.; F.K.; S.P.N.; J.F.; M. de W.; S. d'A.; Ru.	C. for show blooms. S. best for transplanting.	*a.* For most on light soil; Brier best for strong deep soils.	"A failure.'

51	A.Y.; Au. C.; Ha.; P.Y.; A. de M.; P. d'Or; L. G.; Ct. M.; R.; R. Ab.	A.J.; S.M.P.; Az.; D.; General Washington.	H.—Me.Lm.; G. de D.; A.O.; B. d'Or; B.L.; M.Lt.; H.; S.; J.D.; Bl. d'Or; M.Wz.; Ru. D.—Mo.; A.J.; D.; Az.; Belle Fleur d'Anjou.	—	*a.* Not on clay; better on light land. Suits H.P.s better than Teas.	Like some sorts on O.R.
52	Au. C.; A.Y.; R.; R.Ab.; Mac.; P.S.W.	—	H.—A.O.; F.K.; G. de D.; H.; C.K.; Me. Lm.; M.Wz.; V.F.; S. d'A.; H.E.G.; M.V.H.; G.D. D.—Bl. d'Or; Me. Cn.; M.deW.; S.G.D.	Equal.	*a.* May be best for some—*e.g.*, J.H.; but Brier best for Teas and N.'s and some H.P.'s—*e.g.*, L.V.H.; C.C.; V.V. family.	Good only for a few strong, robust sorts.
53	—	—	D.—The yellow kinds.	—	*a.* For some few. *b.* On poor soil.	"Out of the running."
54	—	—	H.—H.E.G.; Me. Lm.; S.d'E.; C.N.; M.V.H.; Mo.; C.M.; D.; A.O.; I.P.; St. D.—M. Nl.	—	*a.* Inferior in all ways.	Do not succeed at all.
55	—	A.K.W.; E.H.; Me. L.; M. Bn.; Eie.V.; D. of B.; Ju. C.; Mrs. L.; J.S.; Ds. of C.; A.C.; Le H.; Dr. S.; Me. Moreau.	H.—G. de D.; H.; A.O.; M.V.H.; Ru.; M.Lt.; J.D.; E.deL.; Me. Lm.; M. Wz.; J.F.; Ps. of W. D.—Me. Cn.; C.N.; M.W.; P.J.; S.P.N.; W.F.B.	C. quicker; otherwise equal.	*b.* For light soils.	Strongly in favour for most sorts, but some will not do so well.

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
56	—	Weak constitution, fine at first but do not last:—A.K.W.; F.M.; H.V.; L.V.H.; S.Z.; X.O. Weak of growth and constitution:—M. Dr.; Mrs. L.	H.—All the Dijon race; H.; M.V.H.; S. d'A.; Bou. D.—D.	C. for Maidens; for for high culture; for shallow soils; for H.P.s. S. for Roses to last; for Roses to neglect; for deep soils. C. and S. equal for Teas. C. on whole preferred.	*a.* Only for Maiden H.P.s of certain sorts; for early bloom; for making "Own Roots" if desired. *b.* A little better for many H.P.s on very light soil.	"No opinion" of them. No difference between Manetti Cutbacks and "O.R.s."
57	—	M.B.; A.K.W.; A.C.; F.M.	—	—	*a.* For some purposes. *b.* On very light soils.	Only satisfactory for simple garden decoration.
58	—	—	—	—	—	—
59	—	—	—	C. best.	—	Many will not do.
60		—	H.—M.V.H.; M.By.; A.O.; C.K.; F.K.; Ru.; Me.Lm.; S.d'A.; C.N.; H.E.G.; M.Wz.; Sm. D.–S.P.N.; N.; Me.Cn.	Equal.	*a.* No. *b.* No.	Inferior to Brier Budded.
61	—	—	—	—	*a.* Inferior for all purposes.	Good in light soils, not in heavy.
62	—	—	—	—	—	—
63	—	M.Nl.	—	S. best.	—	Rely upon them, budded Briers having failed.

64	—	—	—	—	—	—
65	—	—	—	—	—	A failure.
66	—	—	—	C. best.	—	Prefer budded.
67	—	M.H.J. ; C.O.; R.H.; M.L.; A.K.W.; M.V.; M.N.; E.Y.T. ; H.V.; L.M.F.; M.V.H. ; C.M.	H.—G.deD.; B.d'Or; Me. B. ; W. A. R. ; R.d'Or ; B.L. ; Mp. ; M.deW. ; Me.Lm. ; M.Mr. ; H. ; F.K.	C. best.	*a.* For M.deC. ; S.of W. ; M.V. ; L.V.H. *b.* For light soils.	Prefer budded.
68	—	—	—	S. best.	*a.* No. *b.* No.	Prefer budded.
69	—	—	—	—	—	Inferior.
70	R. ; R.Ab. ; Mac. ; Mac.Camellia ; Lc. ; A.Y. ; Au.C. ; M. ; Simplex ; Simplicifolia ; Sh. ; I.	—	—	—	—	—
71	—	—	H —A.O. ; M.By. ; E.deL. ; F.K. ; J.D.; Me.Lm. ; M.Mr. ; M.V.H.; M.Wz. ; M. de S.; H.E.G.; M.deT.	C. best for Teas and Noisettes.	*a.* For most H.P.s ; some of the weaker better on Brier.	Not so vigorous.
72	—	—	H.—M.V.H. ; H. ; S.d'A.; Me.F.; Ru. ; G.deD.; B.d'Or; A.O.; M.deW.; Me.Cn. ; S.; Me.Lm.	S. best.	*a.* For all H.P.s and some Teas. *b.* For light soil far superior.	Lack vigour. Many sorts useless as O.R.'s.
73	—	F.M. ; C.M. ; M.Nl. ; Ru.	H.—Me.Lm. ; Me.B.; I.P. ; C.K. ; M.V.H.; B.d'Or; A.O.; Me.F.; M.Wz.; B.L.; H.E.G.; S. d'A. D.—D. ; C.N. ; C.M.	C. best. S. tap roots and goes down into cold soil.	*a.* Inferior for all ; dwindles and fails.	Prefer budded.

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
74	—	—	H.—M.By.; M.V.H.; S.T.L.; J.D.; C.M.; H.E.G.; C.K.; M.de W.; M.H.J.; A.O.; Ps.V.; M.Wz.	C. best.	*a*. Equals Brier for some—*e.g.*, A.C.; Mrs. J.L.; M.L.; Dr.A.; F.H.; B.R.; L.V.H.; M. de C.	Prefer budded.
75	—	S.Z.; E.Y.T.; A.K.W.; Eie.V.; M.C.; L.M.F.; D. of B.; R.H.	H.—Me.Lm.; G. de D.; B.d'Or; Me.B.; M.By.; M.V.H.; W.A.R.; C.F.; A.O.; J.F.; C.K. D.—Me.Cn.; Ps.of W.; C.N.; Ru.; N.; S.d'A.	S. preferred.	—	Budded last much longer.
76	—	—	H.—Me.Lm.; M.By.; M.V.H.; Ru.; B.L.; C.M.; S.d'A.; I.P.; S.P.N.; J.P.; P.J.; A.O. D.—D.; N.; Bl.d'Or.	Equal.	*a*. Only for maidens. *b*. Brier does well on light soil.	Very good for some sorts—*e.g.*, B.R. family; Eie.V. family; D. of E. family.
77	—	C.R.; M.C.; C.C.; Me.L.; C.de S.; E. deL.; D.de V.; C.D.	H.—Me.Lm.; S.d'A.; M.V.H.; C.M.; E. de L.; P.J.; G.deD.; Me. B.; Bl. d'Or; H.E.G.; B.L.; F.K.	S. best.	*a*. Decidedly unsuited to Teas. *b*. Inferior to Seedling B.	Weaker in constitution.
78	P.S.W.; R.; R.Ab.; u.C.; S.B.; M.G.B.; Ma.C.; Y.L.; Mac.; Mac. M.L.; P.S.R.;	H.V.; Bl. d'Or.	H.—N.; S.d'A.; I.P.; G. de D.; R.M.H.; M.E.V.; E.deJ.; Me. Lm.; S.; Ru.; C.H.; B.L.	S. for Teas. C. for H.P.s.	*a*. Growth is better on M.; blooms better on B.	Do not succeed.

79	—	A.K.W.; Ae.D.; B. of W.; D. of W.; E.M.; H.V.; P.C.; My.P.; R.H.; S.Z.; C.N.; S.d'E	—	—	—	—
80	—	X.O.	H.—S. d'A.; J.D.; M.V H.; C.M.; Me. Lm.; S.P.N.; Ru.; D.; T.B.; C.N.; A.O.; C.K.	C. best.	—	Do not succeed.
81	—	M. de M.; S. of W.	H.—H.; M.V.H.; M. By.; A.O.; Me. Lm.; Ru.; Ps. of W.; Me. Cn.; M. Ho.; C.M.; F.K.; M.deW.	S. best in every way.	*a.* No.	Prefer budded.
82	—	X.O.; R.H.; H.V.	H.—H.; J.D.; S.P.N.; S.G.D.; P.J.; M.Wz.; A.O.; F.K.; Me.Lm.; Me. Cn.; M. de W.; J.F. D.—C.N.	C. best all round; roots better, works better, transplants better.	*a.* Better for strong climbers other than Teas; as good for most H.P.s other than smooth-wooded—*e.g.*, V.V. race. *b.* Soil has not much influence; M. does equally on strong or light land.	No advantage.
83	—	—	—	C. best.	*a.* Best for exhibition blooms.	No good for show blooms.
84	Ap.; Au.C.; A.Y.; Gr.; Lc.; Mta.; P.S.W.; P.; Pul.; Rubrifolia; R.; R. Alb.	—	H.—A.; A. O.; Charles Legrady; G.D.; H.; H.E.G.; I.P.; Me. Lm.; M. Wz.; S.G.D.; S.d'A.; V.F. D.—A.J.; N.; S. d'E.; M.C.G.; Primrose Dame.	See note, pp. 298–9.	See note, pp. 298–9.	Not to be compared. Lack vigour in plant, and both quantity and quality in blooms. Have experimented with many thousands of O.R.s.

No.	The 12 most decorative single Roses, species or otherwise	Roses that are of generally weak constitution, or fail	The 12 hardiest Teas, and any exceptionally delicate	The relative merits of Brier Seedlings as compared with Brier Cuttings for stocks	Is the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil	"Own Root" as compared with "Budded" Roses
85	—	L.M.F.; S.Z.; A.K.W.; M.B.; G.L.	H.—G.deD.; Me.B.; H.; R.M.H.; B.d'Or; M.Wz.; Me. Lm.; Gloire de Bordeaux; D.; C.H.; S.; Ru. D.—C.N.	—	*a.* Yes, for Teas. *b.* Stronger growth in light soils.	Invariably poorer.
86	—	—	—	—	—	Prefer them, but many exceptions.
87	—	A.K.W.; C.C.; C.L.; C. de S.; D. of E.; E.M.; E.Y.T.; H.W.; L.S.; M.C.C.; Me. L.; M.B.; M.R.; M.L.	H.—A.O.; C.K.; F.K.; J.D.; M.By.; Me. Lm.; M. Wz.; M.V.H.; N.; Ru.; H.E.G.; S.G.D. D.—C.M.; C.N.; I.P.; A.J.; Me.Cn.; M.Nl.; S.d'E.; M.deW.; Ps. of W.	—	—	Not such good blooms. May be of advantage to lazy folk.
88	—	X.O.; Me.V.V.; M.N.; M.B.; H.M.; P.N.	H.—M.V.H.; H.; A.O.; Ru.; Me.Lm.; C.M.; Bou.; G.D.; J.D.; M.Fo. D.—D.; N.; C.N.; I.P.; P.J.	—	*a.* Certainly not. All I ever had on M. failed after two years.	Good for some sorts—*e.g.*, La F.; F.M.
89	Regeliana; R.Ab.; Bicolor; A.Y.; P.	—	H.—G.deD.; M.Lt.; M.T.; B.L.; B.d'Or; Me.B.; S.; I.S.; M. By.; Me.F.; F.K.	S. best.	*a.* No.	Weaker.

SYNONYMS.

The following Roses bracketed together have been regarded as synonymous, according to the rule adopted by the National Rose Society; and the name standing first in each case, being believed to be the original name, is considered for the purpose of the preceding Digest as the ruling name of the Rose.

Charles Lefebvre.
Marguerite Brassac.
Paul Jamain.

Monsieur Boncenne.
Baron de Bonstettin.

Maréchal Vaillant.
Avocat Duvivier.

Eugénie Verdier.
Marie Finger.

Amadis.
Crimson Boursault.

Duchesse de Caylus.
Penelope Mayo.

Prince C. de Rohan.
La Rosière.

Marie Rady.
Comtesse de Choiseul.

Maurice Bernardin.
Ferdinand de Lesseps.
Sir Garnet Wolseley.
Exposition de Brie.

Thoresbyana.
Bennett's Seedling.

Devoniensis.
Climbing Devoniensis.

Adam.
President.

Madame Bravy.
Madame de Sertot.
Alba Rosea.
Josephine Malton.

Fortune's Yellow.
Beauty of Glazenwood.

List of Abbreviations used for the Names of Roses in the foregoing Statistical Returns.

A

A.......	Adam. President.
A.A.......	Anna Alexieff.
Ab. C.....	Abel Carrière.
A.C.......	Alfred Colomb.
A.D.......	Alfred Dumesnil.
A. de M...	Anne-Marie de Montravel.
A. d'O.....	Adelaide d'Orléans.
Ae. D.....	Antoine Ducher.
A.G.......	Abel Grand.
A.Gy.....	Alice Gray.
A.J.......	Angele Jacquier.
A.K.W. ..	A. K. Williams.
A.L.......	Annie Laxton.
Alb.......	Alba.
Al. S.	Aline Sisley.
Am.....	Amadis. Crimson Boursault.
An. D.....	Anna de Diesbach.
A.O.......	Anna Olivier.
A.P.......	Albert Page.
Ap.	Alpina.
A.R.......	Auguste Rigotard.
A.S.......	Alphonse Soupert.
Au. C.....	Austrian Copper.
A.V.	Aimée Vibert.
A.W.	Annie Wood.
A.Y.	Lutea, or Austrian Yellow.
Az.	Amazone.

B

B.........	Brilliant.
B.2.......	Blairii, No. 2.
B.B.......	Beauty of Beeston.
B. de B. ..	Beauty of Baltimore.
B. de N. ..	Boule de Nanteuil.
B. de P. ..	Bijou des Prairies.
B. d'Or. ..	Bouquet d'Or.
B.E.......	Beauté de l'Europe.
Bf.	Banksiæflora.
B.J.......	Barthélemy Joubert.
Bk.	Banksian White.
B.L.......	Belle Lyonnaise.
Bl. d'Or. ..	Boule d'Or.
B. le R. ..	Gloire de Bourg la Reine.
Bl. M.....	Blanche Moreau.
B.M.	Baronne Maynard.
B.N.......	Boule de Neige.
B.N.R.....	Baroness N. de Rothschild.
B. of W...	Beauty of Waltham.
Boi.	Boildieu.
Bon. ..	Monsieur Boncenne. Baron de Bonstettin.
B. of C. ..	Brightness of Cheshunt.
Bos.......	Mrs. Bosanquet.
Bou.......	Bougère.
B.P.......	Baronne Prevost.
B.Q.......	Bourbon Queen.
B.R.......	Baroness Rothschild.
Br.	Brennus.

C

C.........	Camoens.
C.B.......	Camille Bernardin.
C. Bd.	Crimson Bedder.
C.C.......	Captain Christy.
C.C.C.	Climbing Capt. Christy.
C. Ch.	Crimson China.
C. Co.	Countess Camondo.
C.C.P.	Common Cabbage Provence

C.C.L.	Climbing Chas. Lefebvre.
C.D.......	Charles Darwin.
C. de C. ..	Comtesse de Chabrillant.
C. de R. ..	Comte de Raimbaud.
C. de S. ..	Comtesse de Serenye.
C.d'H.....	Coupe d'Hébé.
C. Ds.	Charles Dickens.
C. de B. ..	Coquette des Blanches.
C.F.......	Celine Forestier.
C.H... ..	Cheshunt Hybrid.
Ch.	Common China.
Chd.	Chênédolle.
C.H.J.	Climbing Hip. Jamain.
C.J.	Clemence Joigneaux.
C.J.M.....	Climbing Jules Margottin.
C.K.......	Caroline Kuster.
C.L.	Charles Lefebvre. Marguerite Brassac. Paul Jamain.
C.Lw.	Charles Lawson.
C. la C....	Cannes la Coquette.
Cl. C.	Clara Cochet.
Cl. Cr.....	Claire Carnot.
C.Lb.	Charles Lamb.
C.M.......	Catherine Mermet.
C.Mr.	Charles Margottin.
C.N.......	Comtesse de Nadaillac.
Cnt.......	Centifolia Rosea.
Cn. P.	Crown Prince.
C.O.......	Countess of Oxford.
C. of P. ..	Countess of Pembroke.
C. of L. ..	Countess of Leven.
C.P.......	Cristata-Provence.
C.P.W....	Climbing Pride of Waltham.
C.R	Countess of Rosebery.
C.S.	Catherine Soupert.
C.Sp.	Cramoisi Supérieur.
C.T.......	Constantin Petriakoff.
Ct. M.	Crested Moss.
C.V.V.....	Climbing Victor Verdier.

D

D.......	Devoniensis. Climbing Devoniensis.
Da.	Damascena.
D.C.......	Duc Constantine.
D. de V. ..	Duchesse de Vallombrosa.
D. de M...	Duchesse de Morny.
D. de C.	Duchesse de Caylus. Penelope Mayo.
D.J.......	Dupuy Jamain.
D.Mp.	Duc de Montpensier.
D. of E. ..	Duke of Edinboro'.
D. of B. ..	Duchess of Bedford.
D. of W...	Duke of Wellington.
D. of C. ..	Duke of Connaught.
D. of T. ..	Duke of Teck.
D. of A. ..	Duke of Albany.
D'O.......	Rev. H. H. D'Ombrain.
D.P.......	David Pradel.
D.Rr.	Dundee Rambler.
Dr. A.....	Doctor Andry.
Dr. H.	Dr. Hogg.
Dr. S.	Doctor Sewell.
D.R.......	Duc de Rohan.
Ds.	Distinction.
Ds. of C...	Duchess of Connaught.

E

E.........	Eclair.
E.A.......	Edouard André.
E.Ap.	Eugene Appert.
E.B.......	Elise Boelle.
E.Bo.	Ethel Brownlow.
E.D.......	Earl of Dufferin.
E.Dy.	Emilie Dupuy.
Ed. M.....	Edouard Morren.
E. de L. ..	Etoile de Lyon.
Ed. G.....	Edouard Gautier.
E. de J....	Etendard de Jeanne d'Arc.
E.F.......	Eugene Furst.
Eg.	Egeria.
E.G.......	Ella Gordon.
E.H.......	Emilie Hausberg.
Eie. V...	Eugenie Verdier. Marie Finger.
E.L.......	Etienne Levet.
E.Lx.	Emily Laxton.
El.	Elegans.
E.M.	Elie Morel.
E.P.......	Emilie Plantier.
E. of P. ..	Earl of Pembroke.
E.Y.T.....	E. Y. Teas.

F

F.........	Fellenberg.
F.B.......	Colonel Felix Breton.
F.H.......	Fisher Holmes.
F.K.......	Francisca Kruger.
F.L.......	François Levet.
F.M.......	François Michelon.
F.P.......	Félicité-Perpétue.
Fu.	Fulgens.
F.Y......	Fortune's Yellow. Beauty of Glazenwood.

G

G.........	Gracilis.
G.C.......	Glory of Cheshunt.
G.D.......	Grace Darling.
G. de M...	Gloire de Margottin.
G. de D...	Gloire de Dijon.
G.F.......	Garden Favourite.
G.J.......	General Jacqueminot.
G.L.......	Mme. Gabriel Luizet.
G.Lse.....	Gloire Lyonnaise.
G.M......	Grand Mogul.
G. of W...	Glory of Waltham.
G. of C. ..	Grandeur of Cheshunt.
G.R.......	Gloire des Rosomanes.
Gr.	Multiflora Grandiflora.

H

H.........	Homer.
Ha.	Harrisonii.
H.E.G.....	Hon. Edith Gifford.
He. L.....	Hebe's Lip.
H.J.......	Hippolyte Jamain.
H.L.......	Henri Ledechaux.
H.M......	Her Majesty.
H.S.......	Heinrich Schultheiss.
H.V.......	Horace Vernet.
H.W.	Harrison Weir.
H.W.E....	Henry W. Eaton.

I

I.	Indica.
In.... ...	Inermis.
I.P.	Innocente Pirola.
I.S.	Isabella Sprunt.

J

J.	Juno.
J.B.	John Bright.
J.C.	Jean Cherpin.
J.D.	Jean Ducher.
J.F.	Jules Finger.
J.H.	John Hopper.
J.G.	Julie Gaulain.
J.L.	Jean Liabaud.
J.M.	Jules Margottin.
J.P.	Jean Pernet.
J.S.	Jean Soupert.
J.S.M.	John Stuart Mill.
Ju. C.	Jules Chretien (Schwartz, 1878).

L

L.	Lamarque.
La.	Lanei.
Lau.	Laurette.
La F.	La France.
L.B.	Lord Bacon.
L.C.	Lord Clyde.
L.Co.	Letty Coles.
Lc.	Lucida.
L.D.	Lecocq Dumesnil.
L.Do.	Louis Doré.
Le H.	Le Havre.
L.F.C.	Lord F. Cavendish.
L.G.	Little Gem.
L.M.	Lord Macaulay.
L.M.F.	Lady Mary Fitzwilliam.
L.O.	Leopoldine d'Orléans.
Lp. B.	Leopold Bauffremont.
L.R.	Le Rhone.
L.Rr.	Longworth Rambler.
L.S.	Lady Sheffield.
Lu.	Luciole.
L.V.H.	Louis van Houtte.

M

M.	Multiflora.
M.A.D.	Alice Dureau.
M.A.C.	Mme. Alfred Carrière.
Mac.	Macartney Simplex Bracteata.
Mac. M.L.	Macartney Marie Leonida.
Ma. C.	Ma Capucine.
M.A.R.	Mme. Alfred de Rougemont.
Mag.	Magna Charta.
M.By.	Mme. Bravy. Alba Rosea. Josephine Malton. Mme. de Sertot.
Mb. M.	Mabel Morrison.
M.B.	Marie Baumann.
M.Bn.	Maurice Bernardin. Ferdinand de Lesseps. Sir Garnet Wolseley. Exposition de Brie.
M.B.K.	Mrs. Bellender Ker.
M.B.L.	Mme. Barthélomy Levet.
M.C.	Marie Cointet.
M.C.C.	Mme. Charles Crapelet.
M.Cm.	Mme. Camille.
M.C.V.	Mme. Charles Verdier.
M.Ch.	Mme. Charles.
M.C.G.	Mme. C. Guinoisseau.
M. de W.	Mme. de Watteville.
M. de M.	Marquise de Mortemart.
M.Dr.	Mme. Ducher.
M. de C.	Marquise de Castellane.
M. de S.	Marquise de Sanina.
M. de S.A.	Marguerite de St. Amand.
M. de T.	Mme. de Tartas.
M. de R.	Marguerite de Roman.
M.D.	Marie Ducher.
M. d'A.	Mme. d'Arblay.
Me. I.P.	Mme. Isaac Pereire.
Me. C.W.	Mme. Charles Wood.
Me. V.V.	Mme. Victor Verdier.
Me. L.	Mme. Lacharme.
Me. F.	Mme. Falcot.
M.E.V.	Mme. Eugène Verdier.
Me. Cn.	Mme. Cusin.
Me. Lm.	Mme. Lambard.
Me. B.	Mme. Bérard.
Me. Bo.	Mrs. Bosanquet.
M.E.L.	Mme. Etienne Levet.
M.F.P.	Mme. F. Pittet.
M.Fo.	Mons. Furtado.
M.F.J.	Mme. Ferd. Jamain.
M.G.B.	Mme. Georges Bruant.
M.Ho.	Mme. Hoste.
M.Hy.	Mme. Hardy.
M.H.J.	Mme. Hippolyte Jamain
M.H.	Miss Hassard.
M.K.	Mme. Knorr.
M.Lt.	Mme. Levet.
M.L.	Merveille de Lyon.
Ml. B.	Mademoiselle Bonnaire.
Ml. V.	Maréchal Vaillant. Avocat Duvivier.
M.M.	Mme. Montet.
M.Mr.	Mme. Margottin.
M.N.	Mons. Noman.
M.Ny.	Mme. Nachury.
M.Nl.	Maréchal Niel.
Mo. N.	Moschata nivea (Alba).
Mo.	Moiré.
M.P.	Mme. Plantier.
Mp.	Monplaisir.
M.R.	Marie Rady. Comtesse de Choiseul.
Mrs. J.L.	Mrs. John Laing.
Mrs. H.T.	Mrs. Harry Turner.
Mrs. G.D.	Mrs. George Dickson.
Mrs. B.	Mrs. Baker.
Mrs. L.	Mrs. Laxton.
Mrs. J.	Mrs. Jowitt.
M.S.	Marie Sisley.
M.S.J.	Mme. de St. Joseph.
M.T.	Mme. Trifle.
Mta.	Macrantha.
M.T.L.	Therese Levet.
M.V.	Marie Verdier.
M.V.H.	Marie van Houtte.
M.W.	Mme. Welch.
M.Wz.	Mme. Willermoz.
Mx. S.	Max Singer.
My. P.	Mary Pochin.
My. B.	Mary Bennett.

N

N.	Niphetos.
Na.	Narcisse.

O

O.	Ophirie.
O.M.	Old or Common Moss.

P

P.	Polyantha (synonym of Multiflora).
P.A.	Prince Arthur.
Pan.	Comtesse de Panisse.

P.B.	Princess Beatrice.
P.C.	Prince Camille de Rohan. La Rosière.
P.Ct.	Pierre Carot.
P. de L.	Perle de Lyon.
P. d'Or.	Perle d'Or.
P.J.	Perle des Jardins.
P.L.V.	Princess Louise Victoria.
Pl. N.	Paul Neyron.
P.L.	Mme. Prosper Laugier.
P.M.	Princess Mary of Cambridge.
Ps. M.	Princesse Marie.
P.N.	Pierre Notting.
P. of W.	Pride of Waltham
P.P.	Paul Perras.
P.R.	Paul Ricaut.
Ps. of W.	Princess of Wales.
Ps. V.	Princess Vera.
P.S.W.	Paul's Single White.
P.S.R.	Paul's Single Red.
Pul.	Pulverulenta Alba.
P.V.	Paul Verdier.
P.Y.	Persian Yellow.

Q

Q.B.	Queen of the Belgians.
Q.Q.	Queen of Queens.

R

R.	Rugosa.
R.Ab.	Rugosa Alba.
Ra.	Ruga.
R.B.	Rosa Brunonis (syn. of Moschata).
R.C.	Repens Capreolata.
R. d'Or.	Rêve d'Or.
R.H.	Reynolds Hole.
R.J.	Rosieriste Jacobs.
R.M.	Rosa Mundi.
R.M.H.	Reine Marie Henriette.
Rm.	Rampant.
R.M.P.	Reine Maria Pia.
R.O.	Reine Olga de Wurtemberg.
R.P.	Comtesse Riza du Parc.
Ru.	Rubens.

S

S.	Safrano.
S.B.	Sweet Briar.
S. d'A.	Souvenir d'un Ami.
S. d'E.	Souvenir d'Elise Vardon.
S. de S.	Souvenir de Spa.
S.F.	Sophie Fropot.
S.G.D.	Souvenir de G. Drevet.
Sh.	Scotch, white.
Sh. Y.	Scotch, yellow.
Si.	Sinica.
S.J.P.	Sir Joseph Paxton.
S.L.G.	Souvenir de Leon Gambetta.
S.M.	Souvenir de la Malmaison.
S.M.P.	Souvenir de Mme. Pernet.
Sm.	Sombreuil.
Soc.	Socrates.
So.	Solfaterre.
S. of W.	Star of Waltham.
S.P.N.	Souvenir de Paul Neyron.
Sp.	Splendens.
S.P.	Stanwell Perpetual.
S.R.	Suzanne-Marie Rodocanachi.
S.S.	Sempervirens Scandens.
St.	Sunset.
S.T.L.	Souvenir de T. Levet.
S.V.	Senateur Vaisse.
S.V.H.	Souvenir de Victor Hugo.
S.W.W.	Souvenir de W. Wood.
S.Z.	Sultan of Zanzibar.

T

T.	Thoresbyana. Bennett's Seedling.
T.B.	The Bride.
T.G.	The Garland.
T.M.	Thomas Mills.
T.P.	The Puritan.
T.R.	Triomphe de Rennes.

U

U.B.	Ulrich Brunner.

V

V.	Vivid.
V.B.	Violette Bouyer.
V.Bx.	Ville de Bruxelles.
V.F.	Viscountess Folkestone.
V.H.	Victor Hugo.
V.V.	Victor Verdier.
V.Vg.	Vicomte Vigier.

W

W.A.R.	William Allen Richardson.
W.B.	White Bath.
W.Bs.	White Baroness.
W.C. 1.	Waltham Climber, No. 1.
W.C. 2.	,, ,, No. 2.
W.C. 3.	,, ,, No. 3.
W.F.B.	W. F. Bennett.
W.P.	White Provence.
W.W.	William Warden.

X

X.O.	Xavier Olibo.

Y

Y.B.	Yellow Banksian.
Y.L.	York and Lancaster.

Erratum

Page 287, 13th line of second paragraph

Please read—"Madame Eugénie V." or "Mademoiselle Eugène V.," both

NOTES ON DIGEST OF STATISTICS.

By the Rev. W. Wilks, Sec. R.H.S.

The preceding tables of Statistical Returns made at the Conference will be of the greatest possible interest and value to thoroughgoing Rosarians, both amateurs and professionals. They will positively revel in comparing one particular grower's selection with that of another grower as eminent; they will delight in making special combinations and permutations, and will inwardly digest the result; they will give all due weight to aspect, climate, and soil. To such experts I must apologise for any little mistakes which may have crept into what, if it has been a labour of love, has been by no means an easy labour—the digesting, tabulating, and abbreviating the mass of statistics so kindly sent in.

Nomenclature.—Beyond the mere clerical work, the chief difficulty has arisen from varying nomenclature, and that not only with regard to synonyms, but also in regard to the very varied spelling of names. Great confusion is evidently caused by that most reprehensible practice of raisers of new sorts, in giving to their offspring names almost identical with others already existing. For example, Mme. Eugène Verdier (H.P.) and Mlle. Eugénie Verdier, and then repeating Mme. Eugène Verdier again as a Tea! The result of this kind of naming is that "Madame" and "Mademoiselle" become completely mixed. Sometimes one is entered when the other is evidently meant, and more often we get a Hybrid form of name, in either "Madame Eugène V." or "Mademoiselle Eugénie V.," both Hybrid names appearing also as Teas! Other examples will at once suggest themselves, *e.g.*, Hippolyte Jamain and Mme. Hippolyte Jamain (H.P.), and Mme. Hippolyte Jamain (Tea); Jules Margottin and Mme. Jules Margottin and Mme. Margottin; Mme. Ducher and Marie Ducher and Jean Ducher; Mme. Scipion Cochet (H.P.) and Mme. Scipion Cochet (Tea); Princess of Wales (H.P.) and Princess of Wales (Tea); Prosper Laugier and Mme. Prosper Laugier; Julius Finger and Jules Finger; Jules Chrétien, an old worthless pink H.P., and Jules Chrétien H.P. (Schwartz, 1878), a handsome dark one;

Souvenir de Victor Hugo (H.P.) and Souvenir de Victor Hugo (Tea); Baron Nathaniel de Rothschild and Baronne Nathaniel de Rothschild, both H.P.s; and so on *ad infinitum*. Or is our language so poor in names that we need have two so similar as Lady Sheffield and Lady Suffield? Raisers might surely exercise a little ingenuity in choosing really distinctive names for their new introductions. Nor can I think the constant harping on one string, however distinguished, tends to clearness; *e.g.*, Paul Verdier, Eugénie Verdier, Victor Verdier, Mme. Eugène Verdier (H.P.), Mme. Victor Verdier, Emilie Verdier, Marie Verdier, Souvenir de Victor Verdier, Mme. Eugène Verdier (Tea), and probably several others. Similar lists might be made of Jamains, Margottins, Levets, Lyons, Lyonnaise, &c. Nor are our neighbours across the Channel alone in this, for amongst English names we have Beauty of Waltham, Glory of Waltham, Pride of Waltham, Queen of Waltham, Star of Waltham, Waltham Climbers, Nos. 1, 2, and 3; Glory of Cheshunt, Grandeur of Cheshunt, Brightness of Cheshunt, Cheshunt Scarlet, Cheshunt Hybrid. What wonder if the average gardener gets altogether "mixed" with such a repetition of the dominant name! Surely one *can* have too much of such great rose names as Verdier, Cheshunt, Waltham, Lyons, &c.? And might we not usefully drop at least half of the multitude of Madames and Mademoiselles, and most of the Souvenirs; indeed, all of them, *except when needed for the sake of clearness*? Might we not, for instance, without any disrespect or undue familiarity, talk of Alfred de Rougemont, Alphonse Lavallée, Bellender Ker, Charles Crapelet, Clemence Joigneaux, Gabriel Luizet, Norman Néruda, Eugénie Verdier, Marie Cointet, Marie Rady, Thérèse Levet, Angèle Jacquier, Caroline Kuster, Gabrielle Drevet, Admiral Courbet, Riza du Parc, &c., &c.? Some of the very long names might well drop half—which half, by the way, would do for the next new rose—*e.g.*, Archduchess Maria Immaculata might very well be content to be simply styled "Archduchess." "Immaculata" would then make an admirable name for the next new white rose, and we should have "Maria" over and to spare. Prince Camille hardly needs "de Rohan" added, any more than Souvenir d'Elise requires "Vardon"; Princess Mary could well do without "of Cambridge"; Madame E. de Bonnières de Wierre could surely spare "E. de Bonnières" for some other flower and really not feel the loss; and the promised new Rose of 1890 might be content to submit to the inevitable, and be from the outset what she is bound to be in the end, "Dowager Duchess," leaving "Duchess of Marlborough" for some future novelty. I seriously think this question of simplicity and distinctness of nomenclature is a matter Rosarians would do well to lose no time in grappling with.

Order of Entry.—In the preceding Statistical Returns no weight must be laid on the order in which the individual Roses stand in the different selections, as it was often impossible to tell whether the lists were intended to be read up and down the paper or across it, and in not a few cases the writers purposely disowned all intention of any order of merit.

Abbreviations.—I must apologise for a great deal of inconsistency which cannot fail to be remarked in the method adopted in abbreviating the different names of the roses. It is easy to be wise after the event, and had I the work to do over again I would certainly avoid such inconsistency. The task grew gradually as I worked at the Returns, and was not definitely planned beforehand, and at times it has had to be laid aside for weeks together to allow other work to be continued. It must further be remembered that the great object aimed at was brevity, and that the abbreviations are simply used for the purposes of the Statistics, and have no other authority or *raison d'être* whatsoever.

W. WILKS.

SUMMARISED RESULTS OF SOME OF THE STATISTICS.

By REV. W. WILKS, Sec. R.H.S.

Best Twelve H.P.s for Show.—Although thoroughgoing Rosarians will, as I remarked in a previous note, revel in the Returns, to a great many humbler Rose-lovers and Rose-growers they will prove somewhat hard reading, and, for such as are content to extract the honey at second hand, I have drawn up the following lists, resulting generally from the Statistical Returns:—

List I.

The Best Twelve H.P.s for Show Blooms. (79 *Voters.*)

		Votes
1.	A. K. Williams	71
2.	La France	69
3.	Marie Baumann	65
4.	Alfred Colomb	61
5.	Charles Lefebvre	60
5.	Ulrich Brunner	
7.	Gabriel Luizet	55
8.	Merveille de Lyon	48
9.	Baroness Rothschild	39
10.	Etienne Levet	37
11.	Louis van Houtte	36
12.	Duke of Edinburgh	27
13.	Marquise de Castellane	22
14.	Captain Christy	21
15.	Lady Mary Fitzwilliam	20
15.	Mrs. John Laing	
17.	Horace Vernet	19
18.	François Michelon	18
19.	Dupuy Jamain	15
20.	Eugénie Verdier	12
20.	Her Majesty	
20.	Marie Rady	
23.	Heinrich Schultheiss	10
24.	Countess of Oxford	9
24.	Duchess of Bedford	
26.	Prince Camille de Rohan	7
27.	Beauty of Waltham	6
27.	Le Havre	
29.	Camille Bernardin	5
29.	Earl of Dufferin	
29.	E. Y. Teas	
29.	Maurice Bernardin	
33.	Abel Carrière	4
33.	Dr. Andry	
33.	Countess of Rosebery	
33.	General Jacqueminot	
33.	Mons. Noman	
33.	Mme. Victor Verdier	
33.	Senateur Vaisse	
40.	Duchesse de Morny	3
40.	Marguerite de St. Amand	
40.	Pride of Waltham	
40.	Prince Arthur	
40.	Victor Hugo	
40.	Victor Verdier	
46.	Annie Wood	2
46.	Clara Cochet	
46.	Comte de Raimbaud	
46.	Duchesse de Vallombrosa	
46.	John Hopper	
46.	Magna Charta	
46.	Reynolds Hole	
46.	Violette Bouyer	
46.	Xavier Olibo	
55.	Elie Morel	1
55.	Mme. Hippolyte Jamain	
55.	Eugène Furst	
55.	Mme. Eugène Verdier	
55.	Edouard Morren	
55.	Mons. Boncenne	
55.	Glory of Cheshunt	
55.	Duke of Teck	
55.	Dr. Sewell	
55.	Star of Waltham	
55.	Countess Camondo	
55.	Princess Mary of Cambridge	
55.	Baronne Maynard	
55.	John Stuart Mill	

From this list it will at once be noticed that in selecting the best 12 Roses, 79 growers have named no less than 68 varieties; whilst at the same time the 11 best are very clearly notified, and Duke of Edinburgh makes a very fair fight for the remaining place in the best dozen. Newer sorts are manifestly at a disadvantage in such statistics as these, some growers possibly not having yet made trial of them; and from this point of view it is probable that, if the selection were repeated in a year or two's time, Mrs. J. Laing, Earl of Dufferin, and perhaps Victor Hugo and Clara Cochet, would stand relatively higher than they do at present.

The Next Best Twelve H.P.s.—Of these I have only given the names of those obtaining four or more votes, there being no less than 67 other varieties mentioned. Here it is obvious that the higher ones in List I. will figure amongst the lower in List II., as they have already received almost as many votes as possible.

LIST II.

THE NEXT BEST TWELVE H.P.S FOR SHOW. (76 *Voters.*)

		Votes
1.	Dr. Andry	31
1.	Eugénie Verdier	
3.	Marquise de Castellane	27
4.	François Michelon	25
5.	Duke of Edinburgh	24
6.	Camille Bernardin	23
6.	Dupuy Jamain	
8.	Horace Vernet	22
8.	Countess of Oxford	
10.	Louis van Houtte	20
10.	Duke of Wellington	
10.	Marie Verdier	
10.	Marie Rady	
10.	Baroness Rothschild	
15.	Captain Christy	19
15.	Duchess of Bedford	
17.	Maurice Bernardin	18
17.	Merveille de Lyon	
17.	Etienne Levet	
20.	Prince Arthur	17
21.	Mme. Victor Verdier	16
21.	Xavier Olibo	
21.	Reynolds Hole	
24.	Duchesse de Vallombrosa	15
24.	Charles Lefebvre	
26.	E. Y. Teas	14
26.	Beauty of Waltham	
26.	Gabriel Luizet	
29.	Pride of Waltham	13
29.	Star of Waltham	
31.	Senateur Vaisse	12
31.	Countess of Rosebery	
31.	Lady Mary Fitzwilliam	
34.	Le Havre	10
34.	General Jacqueminot	
34.	Ulrich Brunner	
37.	Marie Baumann	9
37.	Mons. Noman	
37.	Heinrich Schultheiss	
37.	Marguerite de St. Amand	
37.	Abel Carrière	
42.	Fisher Holmes	8
42.	Victor Verdier	
42.	Alfred Colomb	
45.	Charles Darwin	7
45.	Prince Camille	
45.	Mrs. J. Laing	
45.	Duke of Teck	
49.	Violette Bouyer	6
49.	Alphonse Soupert	
49.	Her Majesty	
52.	La France	5
52.	Mme. Eugène Verdier	
52.	Comte de Raimbaud	
52.	Magna Charta	
56.	Earl of Pembroke	4
56.	Victor Hugo	
56.	Rosieriste Jacobs	
56.	Mrs. Baker	
56.	Duchesse de Morny	
56.	Sultan of Zanzibar	

LIST III.

H.P.S SCORING TWENTY OR MORE VOTES WHEN LISTS I. AND II. ARE COMBINED.

This list practically gives the opinion of the voters as to the best 24 H.P.s for Show purposes:—

Charles Lefebvre	60 + 15 = 75
La France	69 + 5 = 74
Marie Baumann	65 + 9 = 74
A. K. Williams	71 + 2 = 73
Ulrich Brunner	60 + 10 = 70
Alfred Colomb	61 + 8 = 69
Gabriel Luizet	55 + 14 = 69
Merveille de Lyon	48 + 18 = 66
Baroness Rothschild	39 + 20 = 59
Louis van Houtte	36 + 20 = 56
Etienne Levet	37 + 18 = 55
Duke of Edinburgh	27 + 24 = 51
Marquise de Castellane	22 + 27 = 49
François Michelon	18 + 25 = 43
Eugénie Verdier	12 + 31 = 43
Horace Vernet	19 + 22 = 41

List III.—*continued.*

Captain Christy	21 + 19 = 40	Mrs. J. Laing	20 + 7 = 27
Dupuy Jamain	15 + 23 = 38	Maurice Bernardin	5 + 18 = 23
Dr. Andry	4 + 31 = 35	Duke of Wellington	0 + 20 = 20
Lady Mary Fitzwilliam	20 + 12 = 32	Marie Verdier	0 + 20 = 20
Marie Rady	12 + 20 = 32	Prince Arthur	3 + 17 = 20
Countess of Oxford	9 + 22 = 31	Mme. Victor Verdier	4 + 16 = 20
Camille Bernardin	5 + 23 = 28	Beauty of Waltham	6 + 14 = 20
Duchess of Bedford	9 + 19 = 28		

Twelve Most Useful H.P.s as Cut Flowers for Decoration.—In this list I have omitted all receiving less than six votes, as their name was verily legion.

List IV.

Twelve Most Useful H.P.s. (64 *Voters.*)

		Votes			Votes
1.	La France	51	22.	Alfred Colomb	12
2.	General Jacqueminot	36	23.	Jules Margottin	11
3.	Duke of Edinburgh	30	24.	Duke of Wellington	10
4.	Baroness Rothschild	26	24.	Duchess of Bedford	
5.	Fisher Holmes	23	26.	Dr. Andry	9
5.	Gabriel Luizet		26.	Prince Arthur	
5.	Ulrich Brunner		26.	Senateur Vaisse	
8.	Prince Camille	21	26.	Duke of Connaught	
8.	Boule de Neige		30.	Gloire Lyonnaise	8
10.	Captain Christy	20	31.	Earl of Pembroke	7
10.	Dupuy Jamain		31.	Countess of Oxford	
12.	Eugénie Verdier	18	31.	Maurice Bernardin	
13.	A. K. Williams	16	31.	Magna Charta	
13.	Heinrich Schultheiss		31.	Duke of Teck	
13.	Charles Lefebvre		31.	Beauty of Waltham	
16.	Merveille de Lyon	15	31.	Mme. Victor Verdier	
16.	Marie Baumann		38.	Abel Carrière	6
18.	Marquise de Castellane	14	38.	Camille Bernardin	
19.	John Hopper	13	38.	Mrs. Geo. Dickson	
19.	Violette Bouyer				
19.	Louis van Houtte				

Here it will be noticed how *facile princeps* among useful Roses stands La France, the only wonder being that it did not receive the full number of 64 possible votes. In my own opinion, for cut Roses for house decoration La France is a perfect Saul, not only amongst H.P.s, but amongst all Roses—a head and shoulders above all its brethren—and only approached by such as the Common Pink China Monthly Rose, Mrs. Bosanquet, Gloire de Dijon, and, if it had but a little scent, Souvenir de la Malmaison. And I cannot but think, if a little more stress had been put upon the word "useful," that Captain Christy, Charles Lefebvre, Marie Baumann, Marquise de Castellane, Alfred Colomb, Duke of Wellington, and certainly Earl of Pembroke, would have taken higher place than they do.

I have made no list of "Next Best H.P.s for Cut Blooms," as there are comparatively few votes, and it would have had but slight influence (and that, perhaps, not quite a fair influence) in determining the position of the leading flowers, when combined with List IV.

With the "Garden Roses" I have not dealt at all, as the ideas of the voters as to what is meant by a "Garden Rose" seems to have been so very various that hardly any individual varieties have received any great preponderance of votes. I fancy Mr. Girdlestone's paper, on p. 194, will be of more use to the general reader than any list I could have compiled from the statistics.

The Best Twelve Teas for Show.—Here, as with the H.P.s, some varieties that are comparatively new or little known, *e.g.*, Madame Hoste, Ethel Brownlow, &c., are probably deserving of a somewhat higher rank than they here obtain; but this, time and trial can alone decide.

LIST V.

THE BEST TWELVE TEAS FOR SHOW BLOOMS. (78 *Voters.*)

		Votes
1.	Catherine Mermet	71
2.	Comtesse de Nadaillac	66
3.	Maréchal Niel	62
4.	Marie van Houtte	61
5.	Souvenir d'Elise	57
6.	Innocente Pirola	49
7.	Niphetos	48
8.	Souvenir d'un Ami	44
9.	Jean Ducher	43
10.	Hon. Edith Gifford	39
11.	The Bride	37
12.	Anna Olivier	35
13.	Mme. Lambard	
14.	Mme. de Watteville	33
15.	Mme. Bravy	26
16.	Rubens	23
17.	Caroline Kuster	22
18.	Devoniensis	21
19.	Francisca Kruger	19
20.	Mme. Cusin	18
21.	Perle des Jardins	13
21.	Princess of Wales	
23.	Belle Lyonnaise	9
24.	Mme. Willermoz	8
25.	Mme. Hippolyte Jamain	6
25.	Etoile de Lyon	
25.	Gloire de Dijon	
28.	Adam	5
28.	Bouquet d'Or	
28.	Grace Darling	
28.	Jules Finger	
32.	Souvenir de Paul Neyron	3
32.	Sunset	
34.	Mme. Hoste	2
34.	Cheshunt Hybrid	
34.	Boule d'Or	
34.	Souvenir de Gab. Drevet	
34.	Riza du Parc	
34.	Lady Mary Fitzwilliam	
34.	Viscountess Folkestone	
34.	Amazone	
34.	Mme. Margottin	
34.	Mme. Falcot	
34.	Princess Beatrice	
34.	Homer	
46.	Ethel Brownlow	1
46.	Mme. Welch	
46.	Comtesse Panisse	
46.	Gloire Lyonnaise	
46.	Perle de Lyon	
46.	Mme. Berard	
46.	Souvenir de la Malmaison	
46.	Jean Pernet	
46.	Souvenir de Thérèse Levet	
46.	Triomphe de Rennes	
46.	Princess Royal	
46.	Mme. Charles	
46.	Luciole	

The Next Best Twelve Teas.—Of these I have only given those obtaining five or more votes, there being 53 others named. Again it is obvious that the higher ones in List V. will figure among the lower in the present list, as they have already received almost as many votes as possible.

List VI.

Next Best Twelve Teas for Show. (64 *Voters.*)

		Votes
1.	Rubens	34
2.	Princess of Wales	28
2.	Mme. Bravy	
2.	Mme. Lambard	
2.	Souvenir de Paul Neyron	
6.	Caroline Kuster	27
7.	Francisca Kruger	25
7.	Souvenir d'un Ami	
7.	Devoniensis	
7.	Mme. Willermoz	
7.	Etoile de Lyon	
12.	Jean Ducher	23
12.	Mme. Cusin	
14.	Mme. de Watteville	22
15.	Anna Olivier	21
16.	Perle des Jardins	20
17.	Mme. Hippolyte Jamain	18
18.	Hon. Edith Gifford	16
19.	Innocente Pirola	15
20.	Princess Beatrice	14
20.	The Bride	
22.	Mme. Margottin	13
23.	Marie Van Houtte	12
23.	Mme Welch	
25.	Niphetos	11
25.	Boule d'Or	
27.	Jules Finger	10
27.	Adam	
27.	Souvenir de Thérèse Levet	
30.	Amazone	9
30.	Belle Lyonnaise	
30.	Sunset	
33.	Souvenir de Gab. Drevet	8
34.	Bouquet d'Or	7
34.	Catherine Mermet	
34.	Mme. Berard	
34.	Gloire de Dijon	
34.	Souvenir d'Elise	
39.	Angele Jacquier	5
39.	Mme. Falcot	
39.	Comtesse de Nadaillac	
39.	Riza du Parc	

List VII.

Teas securing Twenty or more Votes when Lists V. and VI. are combined.

This list practically gives the best 24 Teas, in the opinion of the voters, for Show purposes.

1.	Catherine Mermet	71 + 7 = 78
2.	Marie van Houtte	61 + 12 = 73
3.	Comtesse de Nadaillac	66 + 5 = 71
4.	Souvenir d'un Ami	44 + 25 = 69
5.	Jean Ducher	43 + 23 = 66
6.	Maréchal Niel	62 + 3 = 65
7.	Souvenir d'Elise	57 + 7 = 64
7.	Innocente Pirola	49 + 15 = 64
9.	Mme. Lambard	35 + 28 = 63
10.	Niphetos	48 + 11 = 59
11.	Rubens	23 + 34 = 57
12.	Anna Olivier	35 + 21 = 56
13.	Hon. Edith Gifford	39 + 16 = 55
13.	Mme. de Watteville	33 + 22 = 55
15.	Mme. Bravy	26 + 28 = 54
16.	The Bride	37 + 14 = 51
17.	Caroline Kuster	22 + 27 = 49
18.	Devoniensis	21 + 25 = 46
19.	Francisca Kruger	19 + 25 = 44
20.	Mme. Cusin	18 + 23 = 41
20.	Princess of Wales	13 + 28 = 41
22.	Perle des Jardins	13 + 20 = 33
22.	Mme. Willermoz	8 + 25 = 33
24.	Etoile de Lyon	6 + 25 = 31
24.	Souvenir de Paul Neyron	3 + 28 = 31
26.	Mme. Lambard	0 + 28 = 28
27.	Mme. Hippolyte Jamain	6 + 18 = 24

The next few columns in the Statistical Returns have received so few answers that those who may happen to be interested in the subjects which they concern will not find it any great labour to summarise them for themselves.

The Twelve Hardiest Teas.—Those receiving less than five votes have been omitted, as they included the name of almost every known Tea.

LIST VIII.

THE TWELVE HARDIEST TEAS. (53 *Voters.*)

	Votes		Votes
Mme. Lambard	45	Belle Lyonnaise	13
Marie van Houtte	39	Bouquet d'Or	
Anna Olivier	32	Mme. Cusin.	
Souvenir d'un Ami	31	Mme. de Watteville	
Gloire de Dijon	26	Etoile de Lyon	12
Rubens	24	Innocente Pirola	10
Francisca Kruger	23	Jules Finger	8
Hon. Edith Gifford		Devoniensis	
Jean Ducher		Safrano	
Caroline Kuster	20	Mme. Falcot	7
Homer		Grace Darling	6
Catherine Mermet	16	Niphetos	
Mme. Willermoz		Comtesse de Nadaillac	
Mme. Bravy		Perle des Jardins	
Mme. Berard	14	Mme. Margottin	5
		Souvenir de P. Neyron	

Any Exceptionally Delicate Teas.—In this list it must be remembered, in contradistinction to all others, that the greatest honour is to be at the bottom, and *vice versâ.*

LIST IX.

DELICATE TEAS. (27 *Voters.*)

	Votes		Votes
Comtesse de Nadaillac	12	*Adrien Christophle	1
*Niphetos	11	Isabella Sprunt	
*Devoniensis	9	*Belle Lyonnaise	
Souvenir d'Elise	6	Mme. Bravy	
Princess of Wales	5	Luciole	
Angèle Jacquier		*Ma Capucine	
Boule d'Or		Narcisse	
Mme. Cusin		Jean Pernet	
Innocente Pirola	4	*Mons. Furtado	
Catherine Mermet		Mme. Willermoz	
Maréchal Niel	3	Mme. Falcot	
Mme. de Watteville		Socrate	
*The Bride	2	Princess Beatrice	
Hon. Edith Gifford		Moiret	
*Mme. Eugène Verdier		Belle Fleur d'Anjou	
Jean Ducher		Souvenir de G. Drevet	
*Lamarque		Mme. Welch	
Rubens		W. F. Bennett	
Amazone		Souvenir d'un Ami	
Mme. Guinoisseau		*Primrose Dame	
Perle des Jardins			
Souvenir de P. Neyron			

The preceding list would have been of more general use to the inexperienced if the question asked had referred to "hardiness to withstand frost." As it is, it appears to be evident that some, in making this Return, have regarded "weakly growing" as synonymous with "exceptionally delicate"—*e.g.*, Mme. Cusin is undeniably a somewhat poor grower, but it is very hardy against cold, whereas those marked with an asterisk [*] are among the easiest victims to King Frost.

I trust, therefore, that those who have been kind enough to vote on this question of delicacy will not be offended by my expressing a hope that the general public, for whom alone I am venturing to make these notes, will not give undue weight to the verdict of this or the following list, but will try for themselves; and in particular that they will let nothing deter them from planting that perhaps most lovely of all lovely Teas, Comtesse de Nadaillac, which in my own garden, for instance, proves as hardy as any, though not quite so vigorous a grower as some. It may further be taken for granted that any not named in either List VIII. or IX. are neither especially hardy nor particularly delicate. However, to reap the true value of Lists VIII. and IX. it remains to combine them, or rather to subtract IX. from VIII., and note the result.

LIST X.

THE HARDIEST TEAS, BEING LIST VIII. MINUS LIST IX.

1.	Mme. Lambard	45 – 0 = 45
2.	Marie van Houtte	39 – 0 = 39
3.	Anna Olivier	30 – 0 = 32
4.	Souvenir d'un Ami	31 – 1 = 30
5.	Gloire de Dijon	26 – 0 = 26
6.	Francisca Kruger	23 – 0 = 23
7.	Rubens	24 – 2 = 22
8.	Hon. Edith Gifford	23 – 2 = 21
8.	Jean Ducher	23 – 2 = 21
10.	Caroline Kuster	20 – 0 = 20
10.	Homer	20 – 0 = 20
12.	Mme. Willermoz	16 – 1 = 15
12.	Mme. Bravy	16 – 1 = 15
14.	Mme. Berard	14 – 0 = 14
15.	Bouquet d'Or	13 – 0 = 13
16.	Catherine Mermet	16 – 4 = 12
16.	Belle Lyonnaise	13 – 1 = 12
16.	Etoile de Lyon	12 – 0 = 12
19.	Mme. de Watteville	13 – 3 = 10
20.	Mme. Cusin	13 – 5 = 8
20.	Jules Finger	8 – 0 = 8
20.	Safrano	8 – 0 = 8
23.	Innocente Pirola	10 – 4 = 6
23.	Mme. Falcot	7 – 1 = 6
23.	Grace Darling	6 – 0 = 6
26.	Mme. Margottin	5 – 0 = 5
27.	Perle des Jardins	6 – 2 = 4
28.	Souvenir de P. Neyron	5 – 2 = 3
29.	Devoniensis	8 – 9 = –1
30.	Niphetos	6 – 11 = –5
31.	Comtesse de Nadaillac	6 – 12 = –6

Briar Seedlings or Briar Cuttings for Stocks.—Judging from the opinions expressed in the Returns, it appears that, other conditions being equal or unknown, there is absolutely nothing to choose between Seedlings and Cuttings, for Rose Stocks; yet each has its particular merits under certain conditions. Given a good deep rich well-drained soil, or a dry sandy or chalky soil, the Seedling seems to be preferred. It roots deeper down into the soil, and can therefore better withstand the summer drought. The Cutting, on the other hand, appears to be the best for shallow or heavy soils, or for damp ill-drained positions. It roots somewhat nearer to the surface, and makes a fibrous web ready to absorb the surface feeding given; it is also more readily affected by the warmth and light of the sun. The Cutting has another merit in the eyes of many in that it is easier to bud on it, than on the Seedling. It is said by some that the Cuttting also gives earlier and somewhat larger blooms, to which others reply, "But the Seedling lasts the longer." In deep warm well-drained soils therefore, or in over-dry ones, our "Returns" counsel us to choose the Seedling, and in heavy or damp soils to choose the Cutting, but in other cases Seedling or Cutting are good alike.

Manetti or Briar as a Stock.—Manetti does not find much favour; some, however, consider it better for light soils and for strong growers, and some think that for such it is immaterial which stock is used. The Briar, however, is insisted on as an almost absolute necessity for Teas and weakly growing H.P.s. Manetti is said to give earlier blooms, and therefore if used partially, together with Briar for the main crop, it affords a longer succession of bloom. The consensus of opinion is decidedly against Manetti for heavy lands.

Value of "Own Root" Roses.—The general agreement on the inferiority of Roses raised from Cuttings, and therefore growing solely on their own roots, as compared with plants budded on the Briar Seedling or Briar Cutting, is very remarkable. It appears to be pretty generally agreed that "Own Root" plants take much longer to obtain, and when obtained give inferior blooms. Some few, however, prefer "Own Roots" for very strong growers like La France, Ulrich Brunner, and the Duke of Edinburgh family. Some of the Returns remark that budded plants become "Own

Roots" after two or three years from planting, and this is, in a sense, no doubt true, especially when the stock used is the Manetti; but when the union between bud and stock has once been good, although the Rose will make roots of its own above the union, and be so far an "Own Root," yet it will at the same time continue to draw nourishment for very many years through the stock roots also. The present Returns therefore advise us to continue to bud Roses, as not only being a quicker and easier method of propagation, but as also giving us better flowers.

In thus summarising and interpreting, to the best of my ability, the results of the Returns sent in, I have endeavoured as far as possible to refrain from the expression of any single personal opinion, either of my own or of others; but I think it will be of interest to many to have before them the following note on Stocks, which was enclosed in the return of Messrs. Cocker, of Aberdeen.

I have ventured only to add up Messrs. Cocker's list of experiments with forty-six varieties, with the following results:—

	Best.	Middle.	Worst.
Briar Cutting	28	13	5
Seedling Briar	12	19	15
Manetti	9	12	25

Similar experiments, carried out on a sufficiently large scale, in other places would give us very valuable results.

W. Wilks.

NOTE ON STOCKS.

By Messrs. Cocker.

We believe that all three stocks—viz., Manetti, Briar Cutting, and Seedling Briar—are necessary, and that each variety of Rose should have the stock which it prefers. We append below a list of Hybrid Perpetuals budded in 1884 and allowed to stand on the same ground until the spring of 1888, when they were removed to a fresh piece of ground. The stocks were planted in beds of three rows each—one row being Manetti, one Cutting Briar, and the other Seedling Briar. Each sort was budded over the whole three rows in quantities varying from 30 to 50 of a sort, according to the excellence of the variety. On taking notes on June 22 of the present year (1889), we find the following to be the result. The healthiest and most promising plants are marked 1; the next best, 2; and the worst, 3.

Name of Variety.	Manetti.	Cutting Briar.	Seedling Briar.	Name of Variety.	Manetti.	Cutting Briar.	Seedling Briar.
Alfred Colomb . .	1	2	3	François Michelon .	3	1	2
A. K. Williams . .	1	3	2	Her Majesty . .	3	1	2
Alphonse Soupert .	3	1	2	Horace Vernet . .	3	equ	al
Annie Wood . .	2	1	3	Heinrich Schultheiss .	3	1	2
Baroness Rothschild .	3	2	1	J. S. Mill . . .	2	1	3
Chas. Lefebvre . .	2	1	3	La France . . .	1	2	3
Comte Raimbaud .	3	2	1	Louis Peyronny . .	3	1	2
Comtesse d'Oxford .	3	2	1	La Duchesse de Morny	3	1	2
,, de Serenye .	eq.	all	over	Mme. Gabriel Luizet .	3	1	2
Countess of Rosebery .	2	1	3	,, Chas. Wood .	3	1	2
Dr. Andry . . .	2	1	3	,, H. Jamain .	2	1	3
Duc de Wellington .	3	1	2	,, V. Verdier .	3	1	2
D. de Vallombrosa .	3	2	1	,, I. Perriere .	1	3	2
Duc de Rohan . .	3	1	2	Marie Baumann .	3	1	2
Duke of Albany . .	3	1	2	,, Verdier . .	2	1	3
,, ,, Edinburgh .	2	1	3	,, Rady . .	2	1	3
Duchess of Bedford .	1	2	3	Merveille de Lyon .	3	2	1
Duke of Teck . .	3	2	1	Mons. E. Y. Teas .	2	1	3
Elie Morel . . .	3	1	2	Mrs. Jowitt . .	1	2	3
Emilie Hausberg .	3	2	1	Pride of Waltham .	2	3	1
Etienne Levet . .	1	3	2	Senateur Vaisse .	3	2	1
Eclair	3	1	2	U. Brunner . .	1	3	2
Ferdinand de Lesseps .	3	2	1	V. Bouyer . . .	2	1	3

It will be seen from above that, as a general stock, the Cutting Briar is far ahead of any of the others, at any rate for the North of England.

NOTE ON SPECIES OF ROSES SHOWN AT THE CONFERENCE.

A good collection of species in flower came from Mr. T. W. Girdlestone, including R. rugosa, rubrifolia, Beggeriana, Damask, indica and varieties, Hardyi, macrantha, pisocarpa, Woodsi, multiflora, and varieties of lucida.

From the Royal Gardens, Kew, a great number were sent, as follows:—R. nivea, involuta Wilsoni, micrantha, hemisphærica, spinosissima, simplicifolia (berberidifolia), Fortuneana, nutkana, Beggeriana, sempervirens, capreolata polyantha, moschata, stylosa, lævigata, cinnamomea, carolina, sericea, lucida, nitida, laxa, pisocarpa, rugosa, microphylla, hibernica, acicularis, Webbiana, alpina, myriacantha, macrophylla, provincialis, centifolia, damascena, gallica, tomentosa, villosa, Noisettiana, canina, indica (a green monstrosity), anemonæflora, rubiginosa, and sepium.

Messrs. Paul & Sons also showed the following in pots:—R. carolina, lucida, blanda, foliosa, gymnocarpa, Ecæ, setigera, arkansana, simplicifolia, pimpinellifolia, platyacantha, Pissardii, nitida, nutkana, pisocarpa, macrophylla, microphylla, lævigata, indica, villosa, and Nuttalliana.

The Rev. J. H. Pemberton had specimens of R. arvensis, rubiginosa, and canina.

From the Botanic Gardens, Cambridge, Mr. I. R. Lynch sent nineteen specimens, mostly in flower, viz.: R. alpina, Beggeriana, blanda, canina var. (dumalis), gallica, indica, pumila, involuta Wilsoni, lucida, macrantha, macrophylla, Manetti, polyantha, repens, rubiginosa, rubrifolia, rugosa, and rugosa variety.

The Rev. Moyle Rogers showed a specimen of R. pseudorusticana, a Rose hitherto not known to exist in this country and Mr. T. A. Briggs sent specimens of R. stylosa var. systyla R. micrantha Briggsii, and R. stylosa leucochroa.

Sir George Macleay contributed R. damascena, rugosa, rugosa alba, arvensis, canina, lutea (single and double), polyantha, lucida, and repens.

The Rev. H. Ewbank sent specimens of R. simplicifolia lævigata, rubrifolia, and lucida.

NOTE ON BOOKS AND DRAWINGS SHOWN AT THE ROSE CONFERENCE.

The following books were sent by Dr. Masters, F.R.S. Under the title of each book we mention the plates or figures of Roses to be found in each.

WILLIAM TURNER, *Libellus*, 1538. Facsimile reprint. (Ed. B. D. Jackson.)

In this the only two Roses mentioned are:

Cynorhodos.—Cynorhodos quantum mihi cernere datum ut frutex cuius folia primo vere suaviter olent quem vulgus opinoe vocat swetebrere aut eglentyne.

Cynosbatos.—Cynosbatos latinis, a wild hep tre or a brere tree.

JOHN GERARDE, of London, Master in Chirurgerie, *The Herball*, 1597.

Rosa alba, R. rubra, R. provincialis sive damascena, R. p. minor, R. sine spinis, R. Hollandica sive Batava (the great Holland Rose, commonly called the Great Province Rose), R. moschata simplici flore, R. m. multiplex, R. holosericea, R. lutea, R. cinnamomea pleno-flore, R. silvestris odora, R. canina inodora, R. pimpinella.

M. Johnson's edition, 1636. There are in addition to the above: Rosa moschata speciis (*sic*) major, R. lutea multiplex, R. cinnamomea flore simplici, R. silvestris odora flore duplici.

CRISPINUS PASSÆUS, *Hortus floridus*, 1614.

Rosa alba pleno-flore, R. rubra, R. prænestina, R. moschata pleno-flore.

PARKINSON, *Paradisi in Sole, &c.*, 1692.

(1) Rosa anglica alba; (2) R. incarnata; (3) R. anglica rubra; (4) R. damascena, fig. 1, p. 415; (5) R. provincialis sive Hollandica damascena, fig. 2, p. 415; (6) R. p. rubra; (7) R. p. alba; (8) R. versicolor, the party-coloured Rose of York and Lancaster; (9) Rosea (*sic*) chrystallina; (10) Rosa rubra humilis sive pumilio fig. 4; (11) R. franco-furtensis, fig. 3, p. 415; (12) R. hungarica; (13) R. holosericea simplex et multiplex; (14) R. sine spinis simplex et multiplex; (15) R. cinnamomea simplex et multiplex; (16) R. lutea simplex; (17) R. l. multiplex sive flore pleno; (18

R. moschata simplex et multiplex; (19) R. m. multiplex altera alias damascena alba vel verisimilior cinnamomea flore pleno albo; (20) R. hispanica moschata simplex; (21) R. pomifera major; (22) R. silvestris odora sive eglenteria simplex; (23) R. s. odora sive eglanteria flore duplici; (24) R. sempervirens.

FROM THE COLLECTION OF ROBT. FURBER, Gardener at Kensington, 1730. (Coloured Plates by Casteel.)

May.—(1) Cinnamon Rose, (22) Yellow Austrian Rose, (27) Red Austrian Rose.

June.—(9) Maiden's Blush Rose, (12) Blush Belgick Rose, (13) The Francfort Rose, (18) Moss Province Rose, (20) White Rose, (21) Dutch Hundred-leaved Rose, (23) Rosa mundi.

August.—(19) Striped Monthly Rose.

September.—(20) White Monthly Rose.

October.—(26) Double White Musk Rose.

A Catalogue of Trees, Shrubs, &c., by a SOCIETY of GARDENERS (Ed. PHILIP MILLER ?), 1730.

Moss Province Rose, Double Velvet Rose, Austrian Rose, Double Yellow Rose, Red Provence Rose (Artist, Van Huysum).

HALE'S *Compleat Body of Husbandry*, plate 45–46, 1756.

The Double Red Rose; the Double Musk Rose; the Hundred-leaved Rose; the Prænestine Rose.

MILLER, PHILIP, *Gardeners' Dictionary*, 8th edition, 1768.

Rosa canina, R. spinosissima, R. villosa, R. eglanteria, R. scotica, R. inermis, R. hispanica, R. scandens, R. sempervirens, R. virginiana, R. lutea, R. punicea, R. moschata, R. centifolia, R. damascena, R. alba, R. belgica, R. provincialis, R. incarnata, R. gallica, R. cinnamomea, R. muscosa.

In addition to the above, which Miller considered as species, he enumerates the following garden varieties:—

"The Monthly Rose, the Striped Monthly Rose, the York and Lancaster Rose, Mrs. Hart's Rose. These are all supposed to be varieties of the Damask Rose.

"The Red Belgick Rose is supposed to be a variety of the Blush Belgick.

"The single Velvet Rose, the double Velvet Rose, the Royal Velvet Rose. These three are all varieties; the last I raised from seed of the pale Provence Rose.

"The Childing Rose, the Marbled Rose, the double Virgin Rose. These three have great affinity with each other.

"The Cabbage Provence is only a variety of the Common Provence.

"The Blush or Pale Provence is a variety of the Red Provence.

"The White Monthly and the White Damask are varieties of the Damask.

"The Frankfort Rose may be a distinct species, but is of little value; the flowers rarely open fair, and have no odour.

"The double Sweet Brier, the evergreen Sweet Brier, the double blush Sweet Brier, are varieties of the common sort.

"The Austrian Rose, with red and yellow flowers, is only an accidental variety.

"The double Yellow Rose is a variety of the single yellow.

"The Rosa Mundi is a variety of the Red Rose.

"The small white and semi-double white are varieties of the common white."

From Mr. Laxton came a beautiful copy of Miss Lawrance's celebrated *Illustrations of Roses*, 1799, which excited much attention.

Messrs. W. Paul & Son showed the ninth edition of their *Rose Garden*, in two sizes; *Roses in Pots*, sixth edition; *Roses and Rose Culture*, sixth edition; *The Rose Annual*, first and second series. Mr. Cranston also showed his work on the Rose.

DRAWINGS, &c.

From the Royal Gardens, Kew, came copies of Sweert's drawings, 1620, representing the Roses of that period.

Professor Oliver, F.R.S., contributed a drawing, by Ehret, of Rosa pimpinellifolia.

Mr. W. T. Thiselton Dyer, F.R.S., a similar beautiful water-colour, by Ehret, of the spineless Rose, Rosa alpina.

From Messrs. Byrne, photographers, Richmond, Surrey, came a series of magnificent photographs of Roses, correctly named, representing the flowers at nine-tenths of life-size.

M. Barbey sent a photograph of Rosa lævigata to show its beauty as a hardy Climbing Rcse.

THE ORIGIN OF THE FLORIST'S CARNATION.

By Mr. SHIRLEY HIBBERD, F.R.H.S.

[Read July 23.]

IT is necessary to make a beginning, but it is not necessary to make an end. Let us begin then with a plant known as Dianthus caryophyllus, and proceed to reason upon it without seeing it. We shall have to encounter the fascinating subject of evolution, which in part certainly rests on assumptions, and to be in the fashion we will assume that this wild plant, Dianthus caryophyllus is the parent of our garden and florist's carnations. A little evidence may be useful, and may tend at last to lead from assumption to proof; and if we do not establish our case by absolute proof, we may succeed in establishing a strong probability that our carnation, so various in style of growth, and the size, form and colour of the flower, is of pure descent, as truly aristocratic in lineage as it is in appearance and reputation. Our great poet has said—

> " Be thou chaste as ice, as pure as snow,
> Thou shalt not escape calumny "

and our carnation of unblemished blood is defamed by the delicate-minded Perdita, who, from a suspicion of their derivation, refused to grow the flower in her garden. Nor was the error of Perdita—an error so injurious to herself that it excluded from her garden a whole family of the sweetest and loveliest of flowers—a singular instance of unjust aspersion, for the botanists have been wanting in discrimination, the carnation, sweet-william, and pink, having been regarded by some of them as forming a family of mixed descent from several species of dianthus. The question proposed, therefore, to determine the origin of the florist's carnation is one of great interest, and the investigation may prove both interesting and useful.

In a direct appeal to nature, we observe that the wild forms of dianthus include only three or four that might with any justice be regarded as parents of florist's flowers. The sweet-william may be the garden form of Dianthus barbatus; the pink may be an improved edition of Dianthus plumarius; and the carnation differs from Dianthus caryophyllus in no essential particulars, but is larger, fuller, richer, immensely various in outward characters, but within, as we may say, that is, in structural characters, it is doubtless altogether free from taint of other blood. It has been often assumed that the carnation and the pink are related by consanguinity, and that Perdita's objection holds good; that is, if any such objection is worthy of anything more than sentimental consideration.

Dianthus caryophyllus in its wild state is registered as occurring at Rochester, Deal, Norwich, and other places in England, but it is a rarity. Watson suggests that it was originally planted where we now find it, and thereby he seems to authorise a further suggestion, that the so-called wilding may be but a degenerated offspring of an escape from gardens. Bentham ignores its existence; and Watson adds under D. plumarius, that it has by mistake been reported as D. caryophyllus, and therefore perhaps has never been found at all. But the species is good for all that, being plentiful as such in the south of Europe, a fact that explains the derivation from Spain and Italy of garden carnations in ancient times.

This wild carnation is constant in its characters; the flower has five petals, which are wedge-shaped, a calyx of one piece forming a kind of vase or tube for the display of the petals; this tube forms a five-divided calyx or "pod," at the base of which are four large, conspicuous rhomboidal scales. The change from five to four in the numbers of the floral organs appears anomalous, but if we regard the four scales as the equivalent of two pairs of leaves—for the leaves are in pairs always—there is an end of the arithmetical difficulty. There are other distinguishing characters. Dianthus cœsius and D. plumarius, which are probably forms of one species, come very near to D. caryophyllus in the arrangement of petals, sepals, and scales, but the complexion of the entire plant is greatly different, the scales are roundish ovate, the leaves are toothed, and the flowers appear and pass away usually before a single carnation has shown colour.

It should here be observed that we have in gardens a number of useful flowers known as mule pinks, a term that confesses to their mixed parentage. These are variously compounded of D. plumarius, D. cœsius, and D. deltoides, and combine in various degrees their characters. But no variation of essential character is ever noticeable in a carnation, and this being the case imports an element of wonder into the history, for carnations, in outward expression, differ so much that we might, if judging them by these outward characters, be easily persuaded of a complicated hybridism and ambiguous origin.

Early in the history of the flower it was famous for multiplicity of petals and variety of colouring. Turner, in his "Herbal," published 1550, says these flowers "are made pleasaunt and swete with the labours and witt of man and not by nature." We are bound to regard his words as representing his knowledge. We may therefore conclude that long ere Turner's time the florists had operated on the flower for its improvement, which perhaps may assist us in the appreciation of its antiquity. Let it not be supposed, however, that the British florists took the wild carnation from the walls of Rochester Castle and made it what it is; for we have no evidence tending that way. But we have evidence of the introduction of the carnation, as a garden flower ready made, and it is highly probable that it was an ancient flower in the time of Elizabeth, to whom Turner dedicated his book; for Shakespeare could not use it as he does had it been a rarity or a new importation in his day. Beckmann, in his "History of Inventions," suggests that "the modern taste for flowers came from Persia to Constantinople, and was imported thence to Europe, for the first time, in the sixteenth century." This, on the testimony of Turner and Shakespeare alike, is a grave error, and seriously invalidates what little Beckmann has to say on the history of garden flowers. In 1550, when Turner published, the "garden gelouers" were evidently well known and in high favour; while in 1601, when Shakespeare wrote the Winter's Tale, the carnation must have been one of the most popular flowers, because the "streaked gillyvors" are spoken of familiarly, and were to be recognized by mixed audiences no less than by the choice personages engaged in the stage dialogue.* A dramatist of this day might in a dialogue introduce the moss rose or the lily of the valley, but he would not mention the Amorphophallus titanum unless he had an ambition to be flayed, grilled, and peppered in the daily papers. Turner fixed the date at about 350 years since. For the sake of a figure we will assume that in his time it had been cultivated 350 years at least, and this will make it 700 years old as a garden flower at the present time. We may imagine its introduction coeval with the crowning of Richard of the Lion Heart, and thereby obtain a hint of the possible introduction of the flower by the Crusaders. If conjectures are to be allowed on this solemn occasion, I will beg you to note that the carnation was greatly valued by the ancients, say, to be precise, by those of Italy and Spain, for the flavouring of stimulating beverages. The Greeks and Romans probably did not grow flowers, as we do, for the sake of their beauty solely, but when a flower found favour by its usefulness it became a subject of careful attention. Thus we seem to find a clue to the reference by Pliny in his twenty-fifth book to the Cantabrica, or carnation, which was discovered in Spain in the days of Augustus, B.C. 50, and of which he says it was one of a hundred herbs that were employed to flavour a kind of sweet mead which Holland translates as "a certain wassell or Bragat." Pliny, therefore, carries back the history at least 2,000 years, for Augustus became consul in the year B.C. 33. Shall we say then that in all probability the Romans brought the carnation into this country to flavour their liquor, and the Saxons who succeeded them appreciated the boon and made "soppes in wine" of the fragrant flower, securing for it thereby the cultivation it required, not only to continue its services in conviviality, but for the position it has since acquired in the world of sentiment as the sweetest of garden flowers and a special favourite of the florists.

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* I adopt the spelling as it appears in Turner's "Herbal"; and in the first folio Shakespeare, published 1632.

When Gerard published in 1597, carnations were plentiful and various in gardens, and he records obtaining a yellow variety from Poland through the agency of a friend. Parkinson, publishing in 1629, speaks of them in number so great that "to give several descriptions to them all were endless." Those he figures are far removed from our modest Dianthus caryophyllus in size and general appearance, but the essential characters are in them; for they were the same, however different, as the flowers we now cultivate, and they afford valuable aid in measuring the influence of man upon them. It is not of great importance that John Rea in his "Complete Florilege," published 1676, gives the names of a collection of 360 sorts of "Dutch July Flowers," adding that they were then "raised in great numbers in Holland and brought over to London." But it is of importance to note that the sorts named by Parkinson in 1629 had passed out of cultivation in 1676, for Rea says "now not any of them are to be found in any of our gardens." I have lately taken a list of 320 varieties of carnations that were conspicuous in prize-lists in exhibitions in 1822, and placed the list before my friends Mr. Samuel Barlow of Castleton, Mr. Dodwell of Oxford, and Mr. Douglas of Ilford, and they agree in saying they do not know of a single one of the 320 varieties as being now in cultivation. Thus fashion or whim may have something to account for; or it may be that actual improvement has put the newer kinds in place of those in the list; or it may be that the varieties die out after a certain number of years and the flower can only be kept to exhibition standard by the raising of seedlings and making new selections to repair the ravages of time consequent upon the fact that the plant is not perfectly hardy in this country.

The life of floriculture is to be found in the capabilities of flowers to vary from their original types. The carnation has produced flowers with stripes, spots, and coloured edges, and with different colours on the upper and under surfaces. Although mere variation is common, and the number of varieties obtained may almost be determined in advance by counting the seeds, yet actual improvement is accomplished slowly, and the system of judging followed appears to ensure that every year the very best in technical properties shall be placed conspicuously in the front. I will ask you to compare *Franklin's Tartar*, a beautiful bizarre carnation that forms the subject of plate 39 of the *Botanical Magazine*, with any of the finest bizarres of the present day. The comparison will show that the flower of 1788 was not quite so good as the best of to-day, but the difference appears not great for the work of a hundred years. The picotees are sometimes referred to as evidence of rapid production, but it has really taken centuries to form them. Parkinson had spotted flowers, and these were the parents of the piquetted group in which the spots formed a kind of fringe on the outer margin of each petal, the spots being in reality contracted rays or lines radiating from the centre. A clear description of a piquetted flower of 1757 is given in Hills's "Eden" as consisting in "a simple colour laid on in spots." In the time of Hanbury, 1770, the classification of carnations comprised Flakes, Bizarres, Piquettes, Cloves, and Painted Ladies; these last having a different colour on the upper and under side of the petals.

The piquetted carnation, with its fringe of short lines, was in high perfection in the time of Thomas Hogg, say 1839, and the wire-edged flower was then unknown, or at least was a rarity, but was in process of formation. We have in this a perfect analogy with the edged auricula, which I have shown was obtained by pushing outwards the stripes that radiated from the centre until, as we may say, the colour accumulated at the margin in a close, dense, sharply-defined ring. The wire-edge picotee is a parallel instance, for precisely the same process has taken place, and may be said to represent fully 300 years of the florist's work. It will be seen that in the wild carnation and in many other species of dianthus the colours radiate in bands, lines, and dots from the centre; and there is a tendency always for some kind of emphasis at the edges, whether in serratures, or less colour, or more colour; Nature showing a distinct intention of defining the form not only with the scissors but with the paint-brush.

Seeing how slow has been the progress of the flower, there can be no extravagance in assuming that it was brought here by the Romans to qualify the beverages of the country, and became the pet of the florists in later ages through the habit of varying it had acquired, and its consequent suitability for their mode of operations. In all the centuries of its slow transformation it has contributed to human happiness, and that is something; if we compare the favourite flowers of to-day with the wilding that we regard as their parent, we shall see reason to congratulate the florists on having done something by their centuries of delightful work, for at the end of the comparison we may say that they have made something out of nothing. As a flower for criticism while the prize flowers are before us we may dismiss Dianthus caryophyllus as little better than nothing at all.

We began by asking for the parentage of the carnation. I beg of you to note that in the history of the flower as now hastily and imperfectly sketched, no such changes have appeared as would warrant the assumption or suspicion of a mixed parentage. We do not anywhere see an ancestor's long nose suddenly obtruding in the portrait gallery, or hear of gout brought into the family through some particular marriage. In the progress of the flower the lines are always forward, they never cross, and we do not recognise what the raisers of seedlings call a reversion, or a distinct and striking break-away from patterns and types sanctioned by the usage of centuries. I know of only one extravagance in the variation of the carnation, and that is the wheat-ear form, in which the scales of the calyx are multiplied so as to give to the aborted flower-stem the appearance of a culm of wheat or of the grass known as Cynosurus cristatus. This is really not a variation from the type so much as a multiplication of essential parts, because the scales are to be regarded as undeveloped leaves. But we dare not quarrel with it, for in what, after all, does the "doubling" of the flower consist, but in a multiplication of essential parts? The figure of the wheat-ear carnation in *Botanical Magazine*, plate 1622, will keep this unique form in remembrance, not to prove hybridation or any flaw in the family pedigree, but to strengthen the conclusion we arrive at from a hasty historical review of the flower, that it is of pure descent from one definite specific form, and we will for present purposes call it Dianthus caryophyllus. John Rea concludes his essay with a bit of rhyme which I copy as a tail-piece to this small gathering of fragments. He says:

> For various colours Tulips most excel,
> And some Anemones do please as well,
> Ranunculus in richest scarlets shine,
> And Beares ears may with these in beauty join,
> But yet if ask and have were in my power,
> Next to the Rose give me the July-flower.

PEACHES AND NECTARINES.

By Mr. T. Francis Rivers.

[Read August 13, 1889.]

The order Rosaceæ, of which family the peach is a very important member, comprises a vast number of plants belonging principally to the temperate zones, of immense value to the human race, comprising, as it does, the fruits, apples, pears, plums, cherries, peaches, strawberries, &c. The peach, although not a fruit of economic industry in this country, derives great value from its singular beauty, size, and delicacy of flavour. The history of the peach is obscure; of its origin, I may undertake to say, that nothing is known and nothing can be known; but it seems to have been taken for granted, by the general consent of many years, that Persia is its native home, and this opinion is also confirmed by the botanical name given to it, Amygdalus Persica. From this country it appears to have spread eastwards, through Central Asia, to China, the north of India; and westwards to the countries bordering the Mediterranean, naturally obtaining an early and permanent home in Syria, and thence passing into Southern Gaul, under the care of the Phœnician mariners. It appears to have been introduced into Gaul long before the Empire of Rome rose into power and importance. The extraordinary extent which its cultivation has obtained in China points to an early introduction by the caravan routes of far distant ages, as it is not indigenous; the Long White Mountain, as examined by James White and recent explorers, contains no members of the peach family, although the flora of this mountain seems to be identical with that of the same European and Asiatic latitudes. The peach being apparently indigenous in Persia, it is evident that its arrival in China was due to artificial means: the dried fruits of the peach being used as food by the caravans, there is no difficulty in accounting for its imported presence in this country, the caravan trade between the Chinese and the great oriental empires having existed for ages. Indeed, were it not for the savage destruction of human life during later and probably less civilised times, it is probable that the ancient routes would be marked by trees growing from the seeds scattered by caravans at their resting places; the fruit being dried in the sun, it would require soaking without cooking for consumption, and the germinating power of the seed would not be destroyed. The absence of trees on these routes, however, points out the exceeding difficulty of the establishment and reproduction of any fruits useful to man, unless assisted by intelligent care and cultivation. Central Asia has been known to have suffered excessive and cruel changes, by which men, animals, and plants have been stamped out. There is a remark made by Mr. Howarth in the "Mammoth and the Flood," which indicates the very high latitudes of Siberia as the possible home of the peach at a remote period of the world's history. He quotes Erman, who says: "In spite of the climate, the flora of Irkutsk is richer than that of Berlin, exhibiting plants of warmer countries, intermixed with those of Arctic Regions. The wild peach of Nerchiusk is a true apricot, Prunus Armeniaca, and contains a very agreeable kernel in a fleshless envelope." Never having seen this fruit, I cannot undertake to say whether it is an apricot or not; the identity would be, of course, ascertained by the stone, that of the apricot differing widely from that of the peach. The fact, however, of the presence of an apricot in such high latitudes is very curious, for it seems impossible to account for the existence in one country or district of one particular fruit only, and that the peach, the almond, and the apricot, so nearly related, are so wide apart in their reputed native habitats. I notice, however, so singular an unanimity amongst all the authors of the history of the peach, in avoiding giving any definite information, that we may conclude that not much is known. The existence of this Northern wild peach or apricot of Nerchiusk is, however, very interesting, as it points to the possible origin and dispersion southwards from the North Polar regions of the plants, economic and otherwise, now existing, a fact which I believe has been indicated and established by Professor Thiselton Dyer. I should think it not unlikely that the peach was not a popular fruit when grown in orchards without especial cultivation; it has a tendency to excessive production, and when allowed to bear without being thinned the fruit is woolly and insipid. The Rosanne peach, which is grown amongst vines as standards in the south of France, is not a very tempting fruit; I have seen specimens of this sort on the barrows in the London streets, which are surprising examples of the hardihood of importers. Orchard cultivation in the south of France appears to have led the cultivators of the North to adopt methods for the improvement of the fruit by wall culture; for Duhamel Monceau, writing in 1740, observes that the difficult and expensive cultivation of the peach around Paris is amply compensated by the delicious fruits obtained; and he adds that Italians must be content with pavies, or clingstones; and even in Provence it is difficult to obtain good and delicate fruit, the climate being too hot. It is certain that the peach does not flourish in excessive heat; like all deciduous trees, it requires a season of rest after fruiting; the keen winters of Persia are admirably adapted to its special wants; in the damp climate of England the plant is never entirely at rest; and a wet and close fortnight in December will set the sap moving, much to the ultimate injury of the tree. I have recently been informed by a friend who has resided for some time near Auckland in the northern island of New Zealand, that large peach trees, after producing heavy crops, will die suddenly, the death no doubt being due to the influence of the climate. Duhamel gives a list of forty-three sorts of peaches, of which many exist to the present day, and may be bought in the Paris nurseries under the names which he employs, a good proof of the strong element of conservatism in French domestic life. The Madeleine de Courson, Malta, Pourpree hâtive, Grosse Mignonne, Chevreuse hâtive, Belle Chevreuse, Galande, Admirable, Fêtou de Venus, are familiar names in Paris fruit-gardens, and are still popular and good. During the last thirty years, however, several new varieties have appeared in England. It is within the recollection of many that July peaches on walls were confined to the Early Nutmeg red and white, the Double de Troyes, and the Early Anne, grown as curiosities only, in a warm season these peaches might ripen in July; but earliness is their only recommendation, and they are not worth the trouble of cultivation. These worthless peaches are now replaced by early and good sorts, the earliest at present known being the Alexander, a peach which I received from Messrs. Capps & Son, of Fort Pulaski, Illinois, U.S.A., some time in the year 1874. I could not at first credit the fact that a peach would ripen in an unheated orchard-house during the first week in July. However, in 1876, this actually took place, and I had the satisfaction of gathering ripe fruit both from the Alexander and the Amsden June, which I received at the same time, the Amsden June proving bitter in flavour and a clingstone, I did not think it necessary to cultivate both varieties. On the Continent, however, where the advent of these early peaches has been hailed with delight, the Amsden June is said to be the more popular of the two; I am inclined to think that the two sorts have been changed; they are identical in the size of the flowers, and it is just possible the Amsden June of the Continental growers is the Alexander. After these two early peaches, the cool orchard-house will produce a succession of July peaches, the Early Beatrice, Early Louise, Early Rivers, and Hale's Early; these are a considerable addition to the season of peaches, and have been the cause of great saving in the expense of heating, which is a very serious item in the cost of peach-forcing. As a matter of fact, the Alexander, without fire-heat, ripens at a time when it is absolutely necessary to force peaches in order to obtain them, that is, in the beginning of July. In the catalogue of the Royal Horticultural Society for 1842 there are of recognised varieties ripening in August, the Acton Scot, the Early Anne, the White Magdalen, the Mignonne Petite, the Red and White Nutmeg, and the Pourpree hâtive. With the exception of the last, none of these sorts are grown ; but in their places we have the Early Grosse Mignonne, Dr. Hogg, Early Victoria, Rivers' Early York, Early Albert, Early Silver, all large and good peaches. Of the September and October peaches, the difference is not so marked, as the recognised sorts are not surpassed, and, when well grown, they are all that an amateur of peaches can wish for in size, beauty, and flavour. The smooth-skinned brother of the peach—the Nectarine—has also undergone great changes, the Elruge and Violette hâtive of a few years since being reinforced by many varieties from seed, resulting in extending the period of ripening.

The Stanwick nectarine, a variety sent some years since from Syria by Mr. Barker, has been the principal factor in a change which has caused a complete revolution in nectarines, a richer and very distinct flavour being communicated by this stranger from Syria. The Lord Napier is at present the earliest good nectarine known, and has inherited largely the characteristic flavour of one of its parents, the Stanwick, although its mmediate progenitor was a peach. My father was one of the earliest possessors of the "Stanwick" nectarine, and began experiments by fertilising the "Elruge." From this he obtained the "Victoria," and, following his example, I have carried on his experiments with many other peaches and nectarines. In all cases where fertilisation was complete, the result was apparent in the dark green and sickle-shaped leaves; the Lord Napier bears distinct evidence of its parentage in the size and peculiar richness of the fruit, and its vigorous foliage.

There are two distinct types of nectarines, the orange fleshed and the green fleshed, the former being, I think, the more popular from the peculiar richness of flavour incidental to all orange-fleshed nectarines, which, I may say here, is much increased if the fruit is allowed to shrivel slightly at the "caudal extremity." In this particular they differ widely in flavour from the orange-fleshed peaches, which, in my opinion, are generally inferior in flavour.

The season of nectarines now lasts from the beginning of August to the end of September, the Victoria being the latest good nectarine; the Peterborough, although later, being very deficient in flavour.

Duhamel describes and figures a peach almond, but he omits to give a figure of the shell of the kernel, which, he states, is not corrugated like the shell of the kernel of the peach. He also remarks that the same tree bears two kinds of fruit, one a true almond, and one with flesh like a peach, which is bitter and uneatable, the kernels of both being almonds. The fruit is said to be a hybrid between the almond and peach. I mention this because I have never been able to obtain a cross between the peach and the almond, although I have made repeated attempts under favourable conditions. It has been said, on apparently good evidence, that peaches and nectarines are produced on the same branch. There is no reason for doubting this statement, nor do I think the fact, if it does occur, would be very extraordinary, considering how nearly related the peach and nectarine are; yet it has never come under my own observation, although my experience of peaches during the last thirty years has been very considerable, and through this long series of years my trees have borne continuous crops of fruit, and I have had hundreds of varieties to observe and test.

The flowers of peaches and nectarines are divided into two distinct classes, some having large and brilliant petals, and others small and insignificant in size. The Grosse Mignonne peach and the Pitmaston Orange nectarine are remarkable for their large and showy flowers, and these are characteristic generally of the descendants from these types, but it is by no means invariable, many of the seedlings raised from the Grosse Mignonne possessing small flowers, the fruit being identical with the parent.

The choice of sorts of peaches and nectarines for an orchard house differs very considerably from the choice of sorts for wall culture. An orchard house should afford a continuous supply from July to October. The following varieties of peaches will give a very satisfactory supply:—

PEACHES.

July.

Alexander
Waterloo
Early Beatrice
Early Louise
Hale's Early

August.

Large Early Mignonne
Rivers' Early York
Condor
Early Grosse Mignonne
Dr. Hogg

September.

Grosse Mignonne
Galande
Goshawk
Alexandra Noblesse
Noblesse
Royal George
English Galande
Stirling Castle
Barrington
Princess of Wales
Walburton Admirable
Gladstone
Sea Eagle

NECTARINES.

July.

Advance

August.

Lord Napier
Improved Downton
White (Rivers)
Spenser
Stanwick Elruge
Newton
Milton Goldoni
Rivers' Orange
Humboldt
Pine Apple
Victoria

I have given a long list of fruits, and many will think that it is not necessary to employ so many varieties. The orchard house amateur will discover, after a few years' experience, that fruit trees have their individualities and dispositions. The fruit will not always ripen in the order assigned to it; variation of season and variation of culture will affect the trees, and although I have placed the sorts as nearly as possible in the order in which they ripen, yet when a tree becomes acclimatised to the orchard house it will sometimes change its nature very completely. It is one of the pleasures of the skilful manager of a house to watch these variations, and to adapt his culture to the express wants of his trees, which he will not be long in discovering.

There is also considerable difference in the habit of growth of the different sorts of peaches and nectarines. Some kinds, as the Alexander and Hale's Early will produce long shoots with fruit buds at long distances from each other. It is as well to avoid sorts with this peculiarity if possible, as the orchard house must necessarily be restricted as to room. The Stanwick Elruge and the Early Beatrice peach are types of trees with fruit buds thickly studded on the shoots, and generally with triple buds, that is, a centre leaf bud and two side fruit buds, a highly important property, and absolutely necessary for fruitful pruning.

I have also noticed that sorts such as the Noblesse and Royal George, which have serrated leaves and no glands, are more liable to be afflicted with mildew than the varieties which have glands on the leaves. The Alexandra Noblesse is an instance of this peculiarity; almost identical with its parent with regard to the fruit, it differs very considerably in the structure of the leaves, which are crenate and have round glands, and is never, as far as I know, affected by mildew; this a very obvious advantage. I do not think it is necessary to give a list of peaches and nectarines for walls, as the number of sorts to be grown must be more limited. A trained peach tree soon covering 20 feet of the space to be occupied, the varieties for this purpose are well known.

The natural tendency of the peach tree is to make a low standard, and the dwarf standard is perhaps the easiest form for an orchard house. The skilful and intelligent cultivator will derive an excessive pleasure if he can train his trees into perfect pyramids not higher than 8 to 10 feet, and symmetrical from base to the top. Attention, care, and the choice of sorts are requisite for this perfection of training, but the result well repays the labour. I regret very much that I cannot transport some of my pyramid trees with ripe fruit attached to them to one of the shows of the Royal Horticultural Society, but the distance is too great and the fruit too heavy to arrive in good order and condition; they need to be seen to be appreciated. The peach requires a calcareous soil, and without lime it is hopeless to expect success in cultivation, but even with a favourable soil the climate of England generally does not give much encouragement to the production of regular and certain crops, such as are enjoyed by the peach-growers of Montreuil, near Paris, who appear to have been settled there for centuries. There are certain districts in England, in Oxfordshire and Yorkshire, where the apricot has well-defined limits of growth; but the peach does not yet appear to be localised in this country, the cultivation must, therefore, be highly artificial. I daresay most amateurs will agree with me that it is difficult to comprehend the mysteries of peach-training on walls as described by numerous authors; the success obtained seems to be always dubious and uncertain, arising, of course, from vicissitudes of the climate. My own knowledge of the peach is derived exclusively from culture under glass, and there ought to be no uncertainty with this protection. I cannot help, however, thinking that the ordinary system of wall training is altogether wrong; it is quite contrary to the physical well-being of a tree to place half of the stem in the shade and expose the other half to the sun. A very slight examination of the subject will be sufficient to convince any observer of the error which has been perpetrated by closely nailing a tree to a wall. A familiar instance is the condition of the cucumber lying on the ground; the part of the fruit which is in the shade is yellow and unhealthy, and the part exposed to the sun green and healthy. This is precisely the condition of the peach tree fastened to a wall. Another source of mischief and disease to the tree is the practice of using shreds for nailing. Every part of the bark covered by shreds and shrouded from the sun is rendered unhealthy and weak; and, consequently, the entire system is affected, producing quite as much as the climate the diseases peculiar to the peach—blister, curled leaves, aphis green, brown, and black, red spider, &c.; the tree not only being injured by the ligatures, by which its growth is restricted, but suffering from the refraction of heat from the wall, to which one side only of its surface is exposed in summer, and also from the continuous cold of the winter. Some years since, when at Montreuil, I noticed that the trees were not fastened to the wall but trained at some inches distant, and that the walls were whitewashed and surmounted in every case by a coping. I think this system should always be followed in England where glass culture is not used. For my own part I believe, to ensure success, that trees should be grown under glass, and that if the tree can be planted so that both sides are exposed to the sun, the results would be better than those gained by the ordinary trellis training, in which one side only is exposed; although, of course, this is not such a vicious system as that carried on by wall training without trellises. As there are many indications that peach culture will be carried on to a considerable extent in this country for profit, it is well to say to those who are not experienced that all walls should be protected by glass if profit is to be expected, and that the trees should be planted so that both sides should have the benefit of light and air. For those who desire a constant supply of fruit during the summer months no system is equal to pot culture, and I should advise the use of perforated pots, the perforation being near the top of the pot and not at the bottom. Rootlets will arise to the surface " to feed." The employment of perforated pots enables the cultivator to check the excessive growth of the tree, as the roots emitted through the perforations can be removed annually, the pot of course being sunk in the soil or in a prepared border; under this system the trees do not require so much water as when grown in pots standing on the surface soil and not plunged. Pot cultivation is not universally popular, as there are difficulties which do not appear to have been surmounted by all those who have attempted the system; but for my own part, having known it for the last thirty years, and having never known a failure, I must speak well of it, the advantages being that a constant supply of fruit can be kept up without having an inconvenient supply at any one time, which will happen with either wall or trellis culture. As some have succeeded, it is, however, probable that failure does not lie in the system, but in the application. Whether trees should be planted out, grown in pots standing on the surface, or in perforated pots plunged in the soil, and annually root pruned, there will, without doubt, be considerable difference of opinion, but there can be no question that to ensure a certain and profitable crop the trees should be grown in a span-roofed house running north and south, so that the sun shines on both sides, that it must be thoroughly ventilated, and devoted exclusively to the cultivation of the peach and nectarine.

ON CONIFERS.

By Mr. W. Coleman, F.R.H.S.

[Read October 8.]

In response to a compliment paid to me by the Council, I am here to-day to offer a few remarks upon Conifers. But before I proceed, I must thank Messrs. Veitch, Messrs. Paul, and Mr. W. Paul, not only for the compliment they have paid to me, but also for the generous way in which they have rallied round the Royal Horticultural Society in sending such beautiful representative collections for the decoration of the hall to-day. These specimens, so kindly brought to us at expense and risk, have afforded to me and others, I have no doubt, a great deal of pleasure; and whilst regretting that I have not been able to dwell upon their examination, I must repeat our thanks for the use of so many choice specimens. In the presence of so many botanists, these remarks, it is hardly necessary for me to say, will be of a practical nature, especially as our subject is suitability to our soils and climate, utility in our trade and commerce, and ornament to our lawns, hillsides, and valleys. The popular study of Conifers being so modern, unlike the florist or the fruitist, I cannot go back a century or so for a wild flower, or a wild plum, make drawings, and build up, bit by bit, until the perfect flower and the perfect fruit, as seen to-day, are placed before you. One mighty step, however, I can take. I can step back to Solomon's house of cedar, and to the time of those ancients who used the stone and the Aleppo pines in ship-building, and shut in Constantinople with gates made of cypress wood, which stood sound for eleven hundred years. I can point to these and say, there exists no doubt that these beautiful exogens, which entered so largely into the formation of the coal we are now burning, were as perfect then as they are to-day. I can point to the great Sequoias, 2,000 years old, which are still growing; and again, nearer home, to the noble Scotch Firs, whose hoary heads covered hundreds of square miles north of the Tweed, long before the Picts and Scots cast their longing glances southward. In another respect florists, fruitists, and arboriculturists stand on even ground, for all have toiled unselfishly for the health and happiness of their fellow-men. All, too, have passed through the fever, which has raged in the palace and the gardener's cottage, which has tempted rich and poor into outdoor employment, and last but not least, which has forced men like Douglas, Jeffrey, Lobb, and others, to face danger and death for our benefit and pleasure. In this respect, all lovers of the beautiful and the elevating are at one. The Pinks and Carnations nestling in our gardens, the Orchids hanging in houses in which delicate ladies can live and breathe, and the Conifers now so plentifully scattered over Britain, form a maze of health-giving wealth, for which all must be thankful.

Although a few species of Conifers, indigenous to temperate Europe, and the well-known Cedar of Lebanon, introduced in 1683, were moderately planted by our forefathers, and some noble Pineta were commenced early in the present century, the rage, the rush, the scathing fever did not set in until about fifty years ago. The first of these collections, formed by Messrs. Loddiges at Hackney, has given way to bricks and mortar, but those established by the Duke of Bedford, the Duke of Devonshire, Lady Rolle, and many others still remain. Many of the New World Conifers, as well as the Cedars, and our hoary friend, the Scotch Fir, are very fine indeed, and it is to these we are indebted for the general love of planting, which is softening our climate, and giving so much pleasure to the masses. In my own time, I will not mention dates, I was engaged in a Pinetum upon the coal measures, the best of all soils for Japanese Conifers, when a very dear friend said, "Give your attention to this branch, for soon all the landowners in the kingdom will be planting." His words were soon verified, for a few years later, I was selected by the late Mr. James Veitch to assist the late Earl Somers in carrying out work which he had commenced in 1840. The soil at Eastnor, including calcareous loam, broken rock, and igneous detritus from the Malvern Hills, is admirably adapted for the growth of Conifers generally; whilst the broken ground offers varying sites and aspects, ranging from 200 to 600 feet above sea-level. Under these circumstances, great facilities for gaining practical experience were placed before me.

I had hoped to have been able to illustrate my remarks by numerous specimens of the fruit or cones so expressive of the tribe; but unfortunately, as in our fruit gardens and orchards, the past bad season has been against me. Last year we had magnificent cones in abundance, this year we have very few. I shall proceed to say a few words on the failures of the past which should be avoided in future.

Formation of a Pinetum.—Although, as I have stated, the formation of collections of Conifers, specially for ornamental purposes, was not commenced until the beginning of the present century, the comparatively limited materials at command, and some fatal errors in the preparation of the trees, heavily handicapped the early planters. First and foremost stood the baneful practice of placing all the most expensive species and varieties in pots. Being in those days rather costly, not a few remained in this unnatural bondage, until the roots were so completely coiled or corkscrewed that they could not be spread out in a radiating position. Indeed, so chary were old gardeners of the slightest disturbance, that they transferred the balls intact to the ground, in which in due course the roots strangled each other, and the trees died of inanition. Some varieties, notably Cupressus macrocarpa and the Italian Pine, two shy rooters, were invariably planted direct from very small pots. All went well until the memorable winter of 1860-61, which followed the wettest and most sunless summer on record. Thousands of fine specimens on that fatal Christmas morning were doomed; their owners in almost every instance blaming the elements, which had left the young growth in an immature state at the end of the season. This immaturity no doubt was against the most tender varieties; but in my own case, when removing deaths the following July, in almost every instance I found the original roots coiled into a solid piece of wood resembling an ovoid football; a few roots had struck out, but they were quite incapable of supporting the trees, which must have gone sooner or later. Another pitfall which prevailed extensively some years ago was wholesale grafting, and although still practised in a few difficult cases, like potting it has received its death-blow. Without entering into the wisdom or theory of grafting scions upon suitable stocks, I may say the practice has been greatly abused, and never more so than in working Deodars upon Larch; or fast-growing, long-lived Californian Silver Firs upon our short-lived European species. The public, in some way or other, will have the trees, as in the case of Picea bracteata, of which only one batch of fertile seeds was received for some years, hence the trade was obliged to resort to other modes of propagation. I do not condemn grafting *in toto*, as some of our finest Picea nobilis and deciduous trees are grafted, but for the benefit of the uninitiated I would say go to a reliable source for stock which will be sure to give satisfaction. My second note of warning was drawn from the fact, that the majority of the specimens planted on low ground for safety were killed, whilst the same species above a certain level were left intact or but slightly injured. In this way and from these causes the earliest planted collections were thrown back; but, profiting by experience, death traps in the future were avoided, nurserymen gave up potting. The first to arrive at this intelligent decision was the late James Veitch, of Chelsea. A few gentlemen were deterred from planting, but the fever simply allayed broke out again, and, thanks to the late J. G. Veitch, Fortune, and others, who ransacked Japan, the country was soon filled with magnificent Abies, Piceas, Cryptomerias, Umbrella Pines, and Retimosporas, which no spirited planter could withstand. A fresh race of planters sprang up, and, in accord with the keen-sighted nurseryman who had sent pots to the rightabout, commenced increasing the already rich arborescent beauty of this country.

Site.—The site for a Pinetum or selection of choice Conifers is generally dependent upon the position of the house and the grounds surrounding it. In many instances there is very little choice in the matter, as the trees must be planted either on surrounding lawns or by the sides of carriage drives. Upon large estates, especially if they be of a hilly nature, large collections of the Californian giants which form the main lines or ground colour of the picture should be kept well away from the mansion; and each tree should have room for the fullest development. Too much dotting should be avoided, glades and open spaces being indispensable; and the existence of a few fine old deciduous trees should be hailed with delight by those who fully appreciate England's arboreal grandeur. Builders of mansions in former times frequently selected a valley, possibly for shelter and security, so that planting naturally ranged low upon deep, rich soils, favourable to strong late growth which never ripened properly. Ordinary deciduous trees, Cedars, Spruces, Silver Firs, and the still unbeaten Scotch Fir, formed the selection for growing into specimens. In due course the fine things from California must have a place, and so furiously did the fever rage that I could name gentlemen who planted Sequoias within twenty yards of their front doors, and crowded their grounds to suffocation. Some old gardeners had an antipathy to noble deciduous trees, and accordingly hemmed them in with Conifers, and in too many instances, I say with sorrow, they succeeded in getting them removed. The memorable winter of 1860–61, as a matter of course, made a tolerably clean sweep of these gloomy, dimly-lighted grounds. The rising generation of builders expressed a wish to be nearer the sun, and in this way provided the most suitable sites for the choice Coniferæ. I will imagine the owner of one of these elevated, and I hope, undulating spots, now about preparing for a choice selection of Conifers, really and truly a winter garden, more beautiful in winter than in summer. The first step is the formation of dry easy-going walks, to be finished off after the ground is drained and planted. Is it wet, or in the lowest parts capable of holding water in suspension? If so, he must drain thoroughly, as, independently of the low temperature of water-logged soils, many of the Fir and Pine tribe which rejoice in a very heavy rainfall strongly resent stagnant water. The nature of the soil is a matter of chance, probably more than of choice. It may be a deep sandy loam, it may be thin and poor, or it may be deep, heavy, and surcharged with water; the latter must be got rid of at any cost, and in each case I would strongly recommend deep uniform trenching, the top soil being retained on the surface, eventually to be returfed or seeded. This, in the end, is much the cheapest and decidedly the best mode of preparing for planting: the open glades and spaces should be left to discretion, according to the plan. Heavy soils may be improved by burning with wood, and by using the ashes in planting; light soil may be broken as deep as the rock will allow, and marled or dressed with good heavy loam in preference to animal manure. If one can have the choice of staple, a sound sustaining loam of course is to be preferred, as trees grow dense and well in it, and do not get thin and spidery in dry summers. Others, no matter how poor, as I have remarked, may be corrected. The majority of old writers, who, I suppose, have seen the Scotch Firs in Scotland, and travellers who have seen the New World Conifers in their native habitats, recommend a granitic soil, and having this we need seek no further. But in the detritus of tens of thousands of years, found near the base, the trees grow better than they do higher up the sides of the mountains. Conifers indeed like a good root-run, as any Scotch Fir growing on deep soil will instantly prove. Limestone, I believe, has been condemned, but the Conifers at Eastnor, with few exceptions, grow well upon limestone rock, and limestone marl of the stiffest character. The only Conifer which positively refuses comfort, is the deciduous Cypress, a tree reputed to grow with its knees above the soil and its feet below the water. The worst of all soils are those resting upon gravel and oolite; these might be improved, but, containing as the latter does deleterious matter soluble in water, a pinetum on the oolite, if possible, should be avoided. All planters cannot command the best of soils and sites, but those who can should keep their most tender specimens above the line of frost and fog, sheltered from the north and east, and if possible shaded from the early morning sun. No one should accept a tree in a pot, or, if obliged to do so, it should be a case of kill or cure, by washing away every particle of soil at the outset, when with care he may peg out the roots in a way that they cannot strangle each other. This reducing the balls by washing is not half so general as it should be, but the time is coming when pure tepid water will set many doubtful plants, exclusive of Conifers, upon their legs, by restoring them to a healthy condition. I could give many instances, would time and space permit, but two I must relate. The first, a faltering Picea Webbiana, badly affected by fungus, was carefully lifted, every root was washed clean, dusted with lime, replanted in sound loam, and now, thirty feet in height, it bears cones and is perfectly healthy. In the other case I wished to plant a group of six Wellingtonias on the side of a limestone hill, facing east. The surface soil, barely a foot in thickness, and very poor, was dug up a spit deep, the grass and turf were burned with wood, when the ashes were dug in, forming a thin layer, about nine inches from the surface, and extending over probably half an acre. The roots of the trees were washed and pegged out, and the trees never looked back, but have formed superb specimens with rootlets forming a network in the thin layer of ashes.

Lime Soils.—Many of the Pines and Firs are found growing naturally on the sides of mountains, where the soil is not very deep, but top-dressed by the needle-like leaves and small branchlets which fall from them, and, aided by a heavy rainfall, the roots never become dry. Silver Firs, with cones erect, are considered less hardy than the Abies with drooping cones; but in my experience this tenderness does not extend beyond the early growths which sometimes get nipped by spring frosts. They are not so valuable for economic purposes; but for ornamental planting, such varieties as P. nobilis, P. grandis, P. amabilis, P. lasiocarpa, P. Nordmanniana, and P. bracteata are simply indispensable. These like a deeper, moister, and cooler soil; but on no account must it be wet, as stagnant water soon destroys the roots. Wellingtonias, Taxodium sempervirens, and the Cryptomerias, the latter a capricious race, enjoy deep alluvial soils, free from stagnant water, but which never dry out; and the same may be said of Abies Menziesii, a most beautiful glaucous species, quite at home in deep igneous loam, but which positively refuses to touch the limestone marl.

The Cedars, Pinus insignis, the Junipers, Cypresses, Araucarias, and Abies Douglasii taxifolia all grow well on the limestone. The Araucaria, however, owing to the coldness of the limestone, makes slow but perfect growth, requiring two years to complete a single whorl of shoots and commence a new leader. The normal form of Abies Douglasii on the lime does not succeed so well as the yew-leaved variety, but in course of a few years turns yellow, loses its leader, and dies.

The Japanese Retinosporas are not quite happy when planted in cold, heavy, calcareous loam; but the introduction of a little peat or igneous soil gives them a start, and well they repay, with their lovely shades of green, grey, and gold, all the attention that is given to them.

A few of the Mexican Pines, introduced by Hartweg, were planted some years ago, and nothing could exceed their beauty up to 1860. All, save P. montezumæ and P. leiophylla, were killed; these two, with us, weather all storms, but as yet have not borne cones.

Pinus ayacahuite, belonging to the same group from the higher mountains of Mexico, is a most beautiful tree, resembling an extra long grey-leaved P. strobus. It grows well in a sheltered spot at a considerable altitude.

Arrangement of Conifers.—As previously remarked, the first steps to be taken in the preparation of ground for these trees are draining and trenching, to a moderate depth, for notwithstanding the fact that Loudon leads us to the inference that a shallow soil answers every purpose, the great experience gained since his day justifies the assertion that the finest specimens are found on the best ground.

Another important matter is the rainfall, as we find nearly double the growth in our moist, warm, western counties, and in Ireland, as compared with the east and north-east sides of the kingdom. This being so, with our eyes still on the drainage, the quantity and quality of the soil should be increased as the rainfall decreases. In my own county, Herefordshire, where the soil is suitable, but by no means rich, Pinus insignis, fully exposed to the western wind, has made a leader five feet in height, and a Wellingtonia over three feet in one season. On the east sides of hills, and where the roots of large deciduous trees rob them of a great deal of moisture, although the ground may be equally good or better, they do not make more than half the growth in any one season.

As very few planters commence and finish the arrangement in one year, but, like the connoisseur in pictures, form the nucleus and add gems by degrees, they derive infinite pleasure and healthful occupation from the ever-increasing collection. If they have studied Loudon and other writers upon Conifers, they will have learned that Junipers, Cypresses, and Silver Firs should occupy the deepest, the richest, and possibly the lightest ground, although in every tribe there are some species which must have an elevated and at the same time a sheltered position. The Spruces and Pines from low altitudes, especially if near the sea, must be kept well up, and if possible sheltered from cutting winds. Knight and Perry, in their handy Synopsis, advise keeping the different kinds of Pines, Firs, and Junipers together; an arrangement which smacks too much of the Botanic Garden, and does not fall pleasantly upon those who have been used to a natural blending of species. Groups or clumps and avenues of any particular variety, as of Wellingtonias at Coombe Wood, or Araucarias at Bicton, are admissible and pleasing; but for embellishing or reproducing our natural English woodland effects, each tree, be it a Pine or a Cypress, should have the altitude and aspect most likely to suit it.

A few unfortunate planters possibly may have to start on so many acres of plain flat treeless ground, but no one, I imagine, would take it from choice, that is if he could break sod on a well-timbered domain where noble deciduous trees, no matter how common, give relief, not only by their shape, but also by their bright cheerful leaves. Conifers, like carpet bedding at one time, forced all other allied subjects out of the field. The novelty lasted for a short period, but fortunately the mistake has been detected, as we now find the wealthy laying out enormous sums of money in the transport of large deciduous specimens, carrying from one to ten tons of earth about their roots, to give life and variety to their collections.

Conifers of most use to the English planter clothe the sides of high mountains in their native habitat; such trees are giants at the base, pigmies at the summit, and form round-headed tops nearest the sky-line. This fact in our small way should not be lost sight of, as it is difficult to imagine anything less picturesque than a few sharply-pointed spruces nearest to the clouds.

Making a Selection.—Having spent so many years upon broken hilly ground, so admirably rich in sites for trees voted tender in other parts of the kingdom, it is possible I may enumerate some which might not stand in the flattest parts of the Midlands. Reassuring, nevertheless, is the fact that although not more than two or three species are indigenous, in no country in the world are so many species and varieties found growing well as in Great Britain. Brief as the Conifer epoch is, we have already passed into its second era, the first having terminated in 1860, when the early planters paid so dearly for their experience—nearly all the Mexican Pines were swept away. Many of the Junipers, especially the Cupressoides section from the temperate parts of Europe and America, were sadly decimated, and the same may be said of the grass-green Pinus insignis, P. radiata, P. muricata, and some others from Lower California. Excepting the beautiful Mexican Pines, which the long-leaved Californian species have now replaced, not one perhaps of the above is quite extinct in this country, for only a few years ago I found a magnificent Fitzroya Patagonica on the coal measures at Cole Orton, and a Cunninghamia sinensis of large dimensions at Longleat; still the disasters of that fatal year opened up a new era in the Pineta of this country. To enumerate one-tenth of the hardy trees in a paper of this kind, which only touches the fringe of a most important subject, would simply be out of the question, but in one sentence I think I may cover much ground by saying no one can err in planting all the Japanese Conifers, and with the exception of Picea Webbiana, P. Pindrow, and P. religiosa, which require exceptionally good situations, they may plant all the Silver Firs now obtainable in English Nurseries. Any tree which stands in Messrs. Veitch's Nursery at Coombe Wood, I should not be afraid of planting, but those less favoured should study the geography of plants, and if I mistake not they will find hardiness depends more upon altitude than it does upon latitude.

General Remarks.—Shelter.—Many of the Pine and Fir tribe found growing on the slopes of mountains do not suffer so much from wind and exposure as they do from stagnant water about the roots; therefore, whilst shelter does them no harm, the first point is drainage. The Silver Firs, on the other hand, from lower latitudes, although perfectly hardy in their matured wood, in some few instances make an early growth, liable to be injured by spring frosts. To prevent this, whilst providing a deep moist soil for the roots, the tops should be fairly exposed to a north or north-west aspect, with shelter, if possible, from the early morning sun and strong winds.

Conifers from Lower California, the South of Europe, and Northern India should not be taken into consideration unless they can be planted high, and they should have shelter from cutting winds, which often do more damage than still frost. Some of the Japanese Conifers are very impatient of our keen cutting winds, notably the Cryptomeria, a giant in its native country, but a disappointing tree with us when exposed, especially upon thin dry soils, though it develops into a most graceful object on deep moist loams, sheltered from north and north-east, and open to the sun and light.

The winter of 1860 having reduced the Cypresses, those left and still planted are fairly hardy in the old wood, but succeed best when sheltered from the north and exposed to the south and west. Cupressus nutkaensis and C. Lawsoniana are exceptions, and may be used for screens and hedges. Most of the

Junipers winter well after hot dry summers, but a few, including the beautiful J. drupacea, must have shelter from the north. They like a deep loamy soil which does not readily dry out, otherwise red spider mars their beauty. Such gems as the Libocedri of Chili, Arthrotaxis, and Callitris may be planted in warm nooks and corners in exceptional localities. A group of the hardy North American or European Conifers forms the most complete shelter, but these should not be used to the extent of coddling, otherwise early spring growth will lead to fatal results. Deciduous trees in some cases are preferable to Conifers, especially the Hornbeam and Beech, which hold their leaves late in the autumn, and do not force early spring growth. In open park planting, how often do we see miserable wind-whipped trees struggling for life, the planter having overlooked the fact that union is strength—that a choice specimen surrounded by a dozen hardy Firs will make good progress; whilst left without shelter it will become thinner and smaller, and eventually die. The preceding remarks apply to single specimens, where a few large nurses, not too near, may make all the difference between success and failure. But there is yet another mode of producing shelter from biting wind, and one which I have practised with great success. Imagine a wind-swept piece of upland, upon which a selection of choice Conifers is to be planted. Independently of the painful impression which the dotting system produces, trees intended to grow into specimens must be planted too far apart to be of the slightest use to each other—at least for a few years. Shelter of some kind, then, suitable for covering the whole of the ground and adapted for removal piecemeal, must be found. What low-growing shrub more suitable or beautiful than the common gorse? If planted thinly, and allowed a two years' start, the choicest trees may be dropped in at pleasure, when the gorse, without making large gaps, may be cut away bit by bit as they require room. For absorbing superfluous moisture from the soil or the atmosphere upon rather flat tracts near large sheets of water, the gorse forms the cheapest, and to my mind, the most beautiful shelter yet introduced.

Top Dressing.—Next to thorough trenching or loosening of the sub-soil and good planting stands top-dressing, an operation sadly neglected in the management of Conifers, especially in dressed grounds. When first planted they make rapid progress, and continue to improve so long as they do not form too many cones. But why do they produce an immoderate quantity of these? Why do the leaders become shorter as the trees attain size? Simply because the food essential to their progress is exhausted, and not even a blade of grass, which has taken something, including moisture, out of the soil, is allowed to remain to offend the eye. In woods and undressed grounds natural accumulations of decaying matter feed the surface roots, and keep in moisture. What wonder, then, that trees thus planted and fed excel moisture-loving specimens on the half-baked lawn? The best of all materials for use as a top-dressing undoubtedly is good loam, but almost anything in the way of fresh soil applied in the winter will do good service in preserving the vigour of the trees. Manure, unless it be thoroughly decomposed, should not be used, and leaf mould in any form must be regarded as a deadly fungus-producing poison. The grandest example of frequent additions of fresh soil to the roots may be seen in the poor gravelly grounds at Dropmore. There tons of gravel were taken out for making walks and roads, the soil obtained from the foundation of the walks being substituted for the gravel. In the centre of each gravel pit a cone like a haycock was raised. The tree was planted, thin layers of soil were added annually until the pits were filled up, and in this way the venerable Frost reared up some of the finest specimens in the kingdom.

Selection.—Messrs. Veitch having so thoroughly divided and subdivided the hardy Conifers into sections, I will not take up time and space by enumerating long lists, but will give the names of a few which should be planted wherever the soil and situation are likely to suit them. Taking them alphabetically, my list will run as follows:—

Abies ajanensis or Alcoguiana
,, Albertiana
,, amabilis
,, bracteata
,, canadensis
,, cephalonica
,, concolor or Lasiocarpa
,, Douglasii taxifolia
,, Englemanni
,, firma
,, grandis
,, Hookeriana
,, Khutrow or Smithiana
,, Mariesii
Abies nobilis
,, Nordmanniana
,, orientalis
,, Pattoniana
,, Pinsapo
,, polita
,, sachalinensis
,, tsuga
Araucaria imbricata
Cedrus atlantica
,, ,, argentea
,, deodara
,, ,, robusta
,, Libani

Cedrus Libani argentea
Cephalotaxus drupacea
Cryptomeria elegans
,, japonica
,, J. Lobbi
Cupressus nutkaensis
,, Goveniana
,, Knightiana
,, Lawsoniana
,, L., varieties of
,, macrocarpa
,, sempervirens
,, torulosa
,, Corneyana
Juniperus communis
,, oblonga pendula
,, chinensis (mas)
,, drupacea
,, excelsa
,, phœnicea
,, recurva
,, Sabina
,, squamata
,, stricta
,, suecica
,, thurifera
,, virginiana
Libocedrus decurrens
Pinus austriaca
,, Cembra
Pinus excelsa
,, insignis
,, Jeffreyi
,, Lambertiana
,, Laricio
,, macrocarpa
,, Pallasiana
,, parviflora
,, pinea
,, ponderosa
,, pyrenaica
,, Sabiniana
,, sylvestris
,, tuberculata
Prumnopitys elegans
Retinosporas, all the
Salisburia adiantifolia
Sciadopitys verticillata
Sequoia gigantea, or Wellingtonia
,, sempervirens
Taxodium distnichum
Yews, all the
Thuja aurea
,, elegantissima
,, gigantea
,, Lobbi
,, orientalis
Thujopsis dolabrata
,, borealis

Examples of some of these will be found upon the tables. Others which I have not named, of more recent introduction, no doubt will prove equally hardy; but, careful in this matter, I do not pledge myself to varieties which have not passed through a scathing winter.

Conifers, their Uses and Value.—Independently of their uses as ornamental trees, for producing shelter, softening and purifying the atmosphere, the economic value of Conifers is immense; so great, indeed, that the present rate of consumption will soon clear the immense forests in many parts of the world. Norway and American Spruce, Scotch, Pitch, and Weymouth Pine, supply the bulk of the resinous timber used in this country. The Corsican Pine, Red Pine, Larch, Taxodium, and Cryptomeria produce enormous quantities of timber, consumed in their respective countries. Whilst upwards of 70,000,000 feet of American Black Spruce cut down represents a clearance of 14,000 acres of forest annually, Norway sends to England over 50,000,000 cubic feet of timber every year, her gross produce more than ten years ago being over 84,000,000 feet. The

Redwood of California, recently introduced to this country from forests covering some 500,000 acres, is going at a rate that will result in scarcity in a very few years; and the same may be said of the Agathis of Hooker, Dammara australis or Kauri Pine of New Zealand. The timber of the Douglas Fir is especially valuable in British Columbia. Abies excelsa, the common Spruce, supplies the white deal of commerce. The best American Pitch Pine is supplied by Pinus australis; the Yellow Pine by P. ponderosa, a timber heavy enough to sink in water; the White by Abies nigra, and the White Fir of Oregon by Abies grandis. The best Canadian Red Pine is produced by Pinus resinosa, and, coming nearer home, the Russian Pine, Memel Fir, and Baltic Yellow Deal, so extensively used in Europe, are obtained from our old friend the Scotch Fir or Pinus sylvestris. Cupressus sempervirens produces one of the most durable timbers known. The Bermuda and Virginian Junipers supply material for our black-lead pencils, and the Deodar Cedar is the most valuable timber in North-West India. Every country indeed, be it temperate or tropical, produces timber most suitable to the requirements of the natives, and so important are these resinous woods that commerce would be simply paralysed were any of them to fail.

Evergreen Hedges.—Invaluable as the Conifers are for growing as single specimens in the park, the pleasure ground, and the cemetery, many of them are equally notable for forming evergreen hedges. The Yew has been used in a clipped form since the time of Evelyn, and no trees perhaps make better hedges; but as compared with some others it is a slow grower, consequently where quick growth is an object, any of the following may be substituted. Many years ago I caused some little surprise by recommending Thuja Lobbi for this purpose, and one large nurseryman, fearful of committing himself, quoted my remarks in his advertisement. Thuja Lobbi soon came to the front, and many beautiful hedges may now be seen in this country. Cupressus Lawsoniana, in my opinion, stands next, and, being a Conifer which stools freely, it may be clipped, pruned, and cut down to within a foot or two of the ground with impunity. Cupressus nutkaensis, or Thujopsis borealis, stands next on my list, being equally rapid in its growth, equally amenable to clipping and cutting down, and capable of forming a wall-like hedge, a dozen feet in height, in a very short time. Juniperus chinensis (mas) is equally good, but, being a more compact grower, it does not spread so rapidly. When in flower, this beautiful Juniper is unsurpassed by the very best of the numerous family, J. virginiana. Cedrus deodara and Thuja occidentalis also submit to the knife and shears, and so does Cupressus macrocarpa, where it can be planted in safety. For forming smaller hedges, Thujopsis dolabrata, Biota compacta aurea, Cupressus erecta viridis, Retinospora obtusa, and R. pisifera are well adapted. The best time to prune Conifers is immediately after the growth has ceased or very early in the spring. If pruned in summer, not only are they deprived of their greatest charm, but, being liable to bleeding, hard cutting at this time may kill them.

A few choice Conifers of moderate growth for small gardens:—

Abies Englemanni glauca
,, Hookeriana or Pattoniana
,, tsuga
Pinus contorta
,, Bungeana
,, Cembra
,, parviflora
Sciadopitys verticillata
Cryptomeria elegans
Cupressus erecta viridis
,, nutkaensis argentea
Biota filipendula
,, orientalis aurea
,, ,, compacta aurea
,, ,, ,, elegantissima
Retinosporas, all the
Thujopsis dolabrata
Juniperus rigida
,, excelsa
,, chinensis (mas)
,, drupacea
,, suecica
,, hibernica
,, thurifera
,, virginiana glauca
Taxus adpressa
,, baccata fastigiata
,, ,, elegantissima
Cephalotaxus pedunculata
Prumnopitys elegans

The best Conifers for belts or screens are:—

Abies excelsa
,, nigra
,, Nordmanniana
,, canadensis
,, Douglasii
Pinus Laricio
,, Pinaster
,, strobus
Pinus sylvestris
,, austriaca
Thuja Lobbi
Juniperus virginiana
,, chinensis
Taxus baccata
Cupressus Lawsoniana
,, nutkaensis

Diseases.—Conifers, like other trees, are liable to be affected, and not unfrequently killed, by disease, as has been so seriously exemplified in the common Larch. The fungoid growth which commences at the roots, and spreads upwards through the layers of wood, is known as the larch rot, and yet another, also fungoid, kills the bark, but leaves the roots intact. Many millions of trees have been destroyed by these two forms of fungus, and more, no doubt, will follow, that is so long as planters persist in replanting with a second crop of young trees the same ground from which the old decaying stools have not been removed. Prunings again left lying about to rot upon the surface of the ground frequently produce a fungus which fastens on the living roots of other species, and so insidious is it that Pines, Firs, Cedars, Cypresses, and Junipers fall a prey to its ravages, often dying off suddenly before danger is suspected. The names of these fungi are Polyphorus destructor, P. abietinus, and P. versicolor. When Conifers are planted in plantations or shrubberies, or in soil containing leaf mould, pieces of dead wood, or the like, they should be closely watched; and if, after going on well for a time, they suddenly begin to falter, the roots should be closely examined. My Picea Webbiana was saved by washing the roots and dressing with lime, but this was an extreme measure, which could not be carried out where numbers are concerned. Neither, perhaps, is it necessary, as recently I have seen a fine avenue of Picea nobilis saved by repeated top-dressings of quicklime. Sulphur, too, may be used with excellent effect, and choice specimens I would syringe freely with sulphur water, or the roots and tops might receive liberal supplies of a mixture of sulphide of potassium, half an oz. to the gallon of water. Another form of disease is the result of planting Conifers in soil containing deleterious matter in a soluble form. Trees planted on the oolite, and sometimes on gravel, notably Abies Douglasii, turn yellow, lose their leaves, and die. This matter, taken up by the roots, I believe, is deposited in the vessels, which it clogs, and completely closes when the sap ceases to flow, or forms the peculiar form of clubbing, as seen in the specimen on the table. If taken in time, Conifers may be saved by the removal of bad soil and draining, but they rarely make good specimens; at least, this is my experience. Conifers are injured by animals, including hares, rabbits, and squirrels, the first eating the bark, the latter the cones and points of the shoots; also, they are injured by wounds or cuts when in full growth. An Abies canadensis wounded by a felled tree rolling against it, and tearing off a piece of bark, soon bled to death, and an Araucaria, injured by a piece of wire, first of all made a semblance of forming cones, and eventually died.

Insects.—Diseases may be prevented by draining, using suitable soils, and care; but insects put in an appearance in the best regulated Pineta. When insects attack our lawn specimens, the injury is serious enough; but when they destroy or injure valuable timber trees, the loss is very great. The most troublesome marauder is the Pine Beetle, *Hylurgus piniperda*, which deposits its eggs in the bark and buds of young trees; the larvæ eat out the interior of the buds and growing shoots, and in this way check, if they do not destroy, the trees. Pinus insignis, and some others, are much disfigured by the larvæ of this beetle eating their way out of the young shoots, which droop and die. The trees at Eastnor some years ago were badly attacked, and being large, hand-picking, the only remedy, was a troublesome undertaking. Whether it be due to perseverance in hand-picking or other causes, this beetle has not been troublesome now for several seasons.

The Typographic Beetle, so called from the lines made in the young wood by its larvæ resembling letters, attacks the Silver Firs, but it is not so troublesome as the preceding. Who has not noticed his Junipers literally woven together by the larvæ of the juniper moth, which left alone destroys the leaves, and permanently mars the beauty of the trees? The Irish and Swedish Junipers, also J. communis, seem special favourites, chiefly in hot dry summers. When detected the branches should be separated by hand, when syringing with lime water, or dusting well into the centres with quicklime, will destroy without injuring the trees.

COMMENTARY.

Speaking of Conifers generally, I may say the Spruces, which may be distinguished by their pendant cones, are supposed to have the widest range of all the Conifers in the northern hemisphere, consequently they are considered hardier than the Silver Firs, which occupy a zone of variable width south of the Spruces. The Spruces produce the most valuable timber, and make very handsome specimens, many of them standing with impunity where the Silver Firs, known by their upright cones, get cut by late frosts in the spring. The latter, however, are so beautiful that no one would think of omitting them from their collections. In addition to the old friends from the New World, we now have some magnificent species from Japan.

Although I cannot attempt separate lists of names, I must draw attention to the five or six species cultivated as Hemlock Firs. They are Abies Albertiana, A. canadensis, A. Hookeriana, A. Pattoniana, and the giant of the family, A. Douglasii. Our friends the Larches, the Cedars, and the Pines cannot be mistaken: the first makes a handsome lawn specimen; the second is the king of Conifers; and the Pines, divided into three sections, Binæ with two leaves in a sheath, Ternæ with three, and Quinæ with five, include more species than any other genus in the order, and are distributed over a greater geographical area. The two-leaved Pines, with one exception, are not found within the Tropics, but are most frequently met with in the northern temperate regions of both hemispheres. All the European species, P. Cembra excepted, belong to this section, from which we obtain so much valuable timber. P. austriaca, P. Laricio, P. mitis, P. Pinea, P. resinosa, and P. sylvestris belong to this section. The three-leaved Pines include some two dozen species, mostly long in the leaf, and very handsome; but, with the exception of P. insignis, P. Jeffreyi, P. macrocarpa, P. ponderosa, P. Sabiniana, and P. tuberculata, they are partially or entirely tender in this country. P. rigida produces the Pitch Pine of commerce; P. Benthamiana, P. Sinclairiana, P. Parryana, and P. Beardsleyi, so handsome and useful in our Pineta, are considered to be synonyms of P. ponderosa, hence my omission of these names from my lists of the true Pines.

The five-leaved Pines contain some remarkable species, but many of them unfortunately are tender. They are widely distributed, examples being found in Mexico, California, the Himalayas, Japan, and Central Europe. P. Montezumæ and P. leiophylla, of which I produce specimens, are not generally hardy. P. Cembra, the Swiss, and P. parviflora, the Japan Stone Pines, are slow-growing gems. P. Lambertiana (the Sugar Pine), P. excelsa, and P. Strobus are handsome giants, yielding fairly valuable soft white timber, and are indispensable in the Pinetum. P. Lambertiana has the largest and P. parviflora the smallest cones of any Pines with which I am acquainted.

Passing the well-known Araucaria, now proved monœcious, we come to the Taxodiæ, or deciduous Cypress group, a tribe of half-a-dozen small families, some of them very important in this country. The Wellingtonia, the Sequoia sempervirens—at one time supposed to be the male form of the preceding—the deciduous Cypress, and the Cryptomeria are the leading members. Sciadopitys and Athrotaxis form the *bric-à-brac* of little use to the British planter.

The Cypress tribe includes our well-known evergreen species, the Retinosporas, Biotas, Thujas, Libocedrus, and the Junipers, the latter so numerous that these have been divided into three sections, viz., the Common, the Savin, and the Cypress-like Junipers. C. Goveniana, C. macrocarpa, C. sempervirens, C. Lawsoniana, and C. nutkaensis, better known as Thujopsis borealis, rank amongst the best; they are natives of climates warmer than our own; therefore, with the exception of the three or four American species, they are liable to suffer in severe winters. C. Lawsoniana and C. nutkaensis from North America, like the Retinosporas from Japan, sport into endless varieties. All of them, I need not inform those who have looked round this hall to-day, are most lovely, and invaluable in the Pinetum, the flower garden, the rockwork, the town garden, the window-box, and the conservatory. The beautiful C. funebris and C. torulosa stand with me, and in other places in the west. The Retinosporas are nearly all of them referable to the normal kinds, R. obtusa and R. pisifera, sent home by J. G. Veitch and Fortune; and, much as I admire them, I shall be one of the first to hail with delight a conference to simplify and regulate the nomenclature. Clever botanists may ask, "What's in a name?" A great deal, I reply, when poor gardeners are called upon to pronounce the synonyms contained in Veitch's Manual. Beyond recommending them strongly, I cannot attempt the invidious task of naming any of the species or varieties; those who want a good book and a winter's instructive amusement must purchase Veitch's Manual. Our indispensable trees, Thuja Lobbi (now T. gigantea) and T. gigantea (now Libocerdus decurrens) may be left to take care of themselves, and so may the perfectly hardy Thujopsis dolabrata and its dwarf garden varieties, which should be planted extensively.

The Junipers (so nobly represented here to-day, thanks to Messrs. Paul) are indispensable to the British planter, and coming from all parts of the northern hemisphere, from the Arctic regions to the Tropics, the three sections offer numerous useful species.

The slow-growing Yew, indigenous to England, and of which we are so proud (as Mr. W. Paul has proved), is worthy of another lecture, which that gentleman can, and will, I hope, give on a future day. The timber is slightly resinous and very durable. All the varieties are worth planting; T. baccata, T. b. fructu luteo, T. b. elegantissima, T. fastigiata, and T. Dovastoni being specially valuable.

The Cephalotaxus also are invaluable for ornament, but the Torreyas, although T. myristica stands well with me, do not make much headway in this country. Prumnopitys elegans is a hardy gem. The Podocarps, like the Torreyas, are highly interesting to botanists, but too tender to become prominent in England.

ON PEARS.

By Mr. W. Wildsmith, F.R.H.S.

[Read October 22nd.]

I am quite unable to say "No" to any request tendered me that seems likely to aid in any degree the furtherance of what I am sure all here have at heart—namely, that of extended fruit cultivation—and, therefore, on the receipt of a note from our Secretary, Mr. Wilks, that I would on this date give a paper on "Pears," I complied without hesitancy, and this is the explanation of the position I am in this afternoon. I half thought at one time that I would christen my paper, "Pears for the Million," but on second thought, and with visions before my eyes of the cold, wet, and sunless season of last year, and the caterpillar plague of this, and consequent partial failure of the Pear crop, I thought it wise to stick to the one word *Pears*, and thus have licence to ramble at will, so long as I occasionally brought in the word Pears. Please do not be frightened; I am by nature too methodical to be able to accomplish my task in any such random fashion, and I therefore shall treat my subject under the following heads or divisions. Of course, presuming that everybody here knows that I am simply a *practical gardener*; "a scientific gardener," that occasionally a would-be flatterer applies to me almost frightens me, because I know, to my cost, that I am, and can only be, *practical*, and from this standpoint alone my paper is written. The divisions are: *Soils*, and their preparation; *Stocks*; *Planting*, and season to plant; *Pruning*, root and branch; *Manures*, how and when to apply them; *Aspects*, and forms of training; the best *varieties*; when to gather the fruit, and how best to store it.

Soils and their Preparation.—I have sometimes thought that, given the most suitable soils for any and every description of fruit trees, treacherous and uncertain as our seasons are, we might almost disregard climatic conditions. What I mean is, that our worst weather is never so bad but that we should be sure to get good returns, had the roots of fruit trees all the elements required for the maintenance of the vigorous growth of the trees and the swelling of their fruit. Of course, colour of fruit and the highest quality might be—nay, would be—lacking in a sunless season, but this would, comparatively speaking, be a small matter. Such being my opinion, you will readily understand that I attach the utmost importance to the preparation of soil for Pears, and if the soil with which I have to do does not come up to the ideal of what I consider the best for the trees, the decided notions I have imbibed as to what the roots should have serve as an incentive to have the right elements at any cost of labour. And now, before I can proceed further with soils, comes the difficulty of *stocks*—Quince or Pear. There is no question but that one kind of soil would do for both, but there is a question as to the *better* doing of each, provided the soil be of the description in which each does best. Heavy soil, that by some would be called clay land, if well drained, is that in which trees grafted on the Quince stock do best, and trees grafted on the natural stock are invariably most satisfactory in soils of a lighter description. Such being the fact, the soil should be prepared accordingly. I dare say that some of my audience, knowing my predilection for the *Quince* stock, and also knowing that the soil with which I have to deal is of a light sandy nature, may feel inclined to charge me with inconsistency, but I hope to show that I am not. I said just now "that there was no question but that one kind of soil would do for both," and I am able to verify that statement by results. Some years ago my late revered employer, Lord Eversley, became enamoured of the *cordon* system of growing fruit trees, so much so that I verily believe, had I seconded his wishes in that direction, there would now be in the Heckfield Gardens but few Pear trees except in the form of cordons. This mania I was able to satisfy to some extent, by destroying a quantity of old horizontally trained trees, and after remaking and entirely renewing the soil of the borders, half of the space was planted with cordon Pears grafted on the Quince, and the other with trees on the natural stock. The first year all did alike well, the only difference being that the trees on the natural stock had slightly the advantage in growth. The second year the change was surprising. The growth of trees on the *Pear* stock grew like wildings; the Quince made a spurt at growing, then stopped, and by midsummer the leaves became of a sickly hue. I was puzzled. I thought the soil could not be dry, or exhausted, because all had been heavily mulched with manure, and the rainfall ample. I, however, made a close examination, when to my astonishment—nay, bewilderment—the roots had as it were taken the manurial mulching by force, for it was nothing but roots, and all were as dry as if there had been no rain for months. I at once set to work and put fresh soil over the old mulching, watered freely, and then had the border well trodden down. Of course there was no new wood growth that year, but such fruit buds as are seldom seen.

During the winter the border throughout was artificially watered—*soaked*—and farmyard manure about six inches in thickness was applied as a mulching. By the time that the trees had opened flower, my mind was quite made up as to the merits of the two stocks. The Quince, of course, won in a canter; the trees were full of flower. Their neighbours blossomed a little and finished off their fruit well, but the favourites, *theirs* much better and more of it. By way of illustration I have selected half-a-dozen average examples of fruit that we have growing under exactly similar conditions, the one on the Quince, the other on the Pear stock, which will show better than any words of mine can describe the merits of each. And now comes the rub: if the Quince stock is best for nearly all varieties of Pears, what are those cultivators to do that have not an adhesive soil in which trees on this stock delight? This was my predicament, for I had the lightest of light loams to deal with. But it did not frighten me. There was no clay to be had, and in lieu thereof in all future plantings the soil, after deep trenching, was extra firmly compressed, the only added ingredient being a few half-inch bones.

For trees on the Pear stock the soil cannot well be too light, nor too deep, and I was going to say, nor too poor, but I won't put it as strong as that, because they must have some nourishment to feed on. Their natural tendency is to strike deep down, and if too much inducement is afforded them by manuring the soil at great depth, vigour of tree will be had at the expense of shy fruiting. I prefer the rather to feed them from the surface; but of this more anon. I end the question of soils and their preparation by saying, *If possible* procure good heavy loam for the one; if not, compress the light soil firmly, and feed liberally from the surface; well drain, trench deeply, and add a small percentage of well-decayed manure and crushed bones to light hungry soils for trees on the Pear stock.

Planting, and Season to Plant.—To plant a tree means much more than a large minority of gardeners seem to imagine. I have, and no doubt you have, seen many good trees irretrievably injured by thoughtless, careless planting. I sometimes think the advice that the Scotch nobleman who was fond of trees gave to his son in the words, "Be aye sticking in a tree, Jock!" applies right well to the manner of planting that one is sometimes obliged to witness, for truly it is "sticking in"—there is no planting about it. The old tree is done for, trench out the stump, put a new tree in its place, and—eh, presto! the work is done. This is not an overdrawn picture. I have witnessed it, and at some cost of self-control held my tongue. Happily better days have dawned on us, and we are fast nearing the point of impossibility for planting to be done in any such slipshod fashion. My contention is that it is just as creditable to produce a good bunch of Currants, or a dish of Raspberries, Apples, or Pears, as it is to grow a fine bunch of Grapes; yet, on planting a vine we don't mind spending an hour in laying out *just so* every particle of root, and are mighty particular to see that the soil is well shaken and pounded about every root; but a Pear tree—ugh! "stick it in." This, of course, does not apply to the present company. Seriously though, to plant properly requires thought. The soil may not have been long in position, and may subside, or may not have been sufficiently compressed, or it may be too wet and clammy and cannot well be worked about the roots; too dry is hardly possible at any season when planting may be done; but the point of all others is to avoid planting too deeply. I prefer to err, if at all, on the side of shallow planting, because any check resulting from this is easily remedied by the application of a little soil round the base of the stem, and a thicker mulching of manure; but, if the stem be buried, say deeper than it has been in the nursery bed, decrepity begins before the end of the first growing season, and the only remedy is to lift and replant; thus a season is quite lost. The best time to plant is, of course, in autumn. I think, however, that in our zeal to get such extraneous work over, we are sometimes in too much of a hurry. The trees, after a prolonged drought such as we have had southwards this year, would assuredly be the better if left undisturbed till the autumnal rains had had their energising effect on the roots, and these—the roots—on the plumping up of the wood and buds. This additional vitality—that imparted by the rains—is an important actor to the kindly and quicker root action in the new soil. The first half of November, if the weather be dry, is, I think, sufficiently early to plant.

Pruning, root and branch.—I am unable to dissociate the one from the other, for if the trees require root-pruning, it is to regulate the growth, or improve the fruitfulness, of the branches; and if little or no pruning of the branches be necessary, then the roots should be let alone, at any rate so far as curtailment of them is concerned. And here again comes in the question of *Stocks*. My experience is that as regards the Quince root-pruning is never required. The trees in a well-prepared border, that from the first day of planting is always kept heavily mulched with manure, root deeply; and by way of ensuring regular fruitfulness, and more especially of keeping the roots near the surface, that air, sunshine, and manure may have the fullest effect, all trees on the Quince we lift bodily at the end of two years from time of planting, and, after shortening back all thong-like and fibreless roots, they are carefully replanted, and root-pruning as regards these trees is ended for ever. One could wish that such was the case with trees on the natural stock, but it is not. Old orchard trees that get little or no manure, and that are allowed to carry every fruit that the most genial season admits of setting, as a matter of course need no root-pruning ; but it does not follow that the practice, if applied to other trees, is wrong. I think rather that it is a count against those who say that root-pruning is unnatural, for what is the sample of fruit from such trees? Possibly there may be a solitary tidy-looking fruit out of every score, but the remainder only fit for the hucksters' barrows. Garden trees proper that are grafted on the natural stock can only be kept in a fruitful condition by occasional curtailment of root-growth. Repression of wood-growth by summer pinching does something towards rendering the operation of root-pruning less frequent. There are a few large bush trees, grafted on the Pear stock, in the gardens under my charge, growing on borders that are regularly cropped with salads and shallow-rooting vegetables, and these trees invariably fruit well, without any curtailment of roots other than such as is unavoidable in preparing the ground for the vegetable crop. I do not, however, commend the practice of planting trees in such positions. I think that each tree is worthy of having its due space of the ground, and only when it has that share have we a right to expect full returns in the shape of fruit. I said that the trees invariably fruit well; that does not mean that the fruit is always fine; it is generally passable, and as fine as we have a right to expect from trees that are annually denuded of their best surface rootlets, the loss of which furnishes the clue to regular fruitfulness. With the wholesale removal of branches in winter, a process that is miscalled *pruning*, I have not an iota of sympathy, unless it be pity for the ignorance of the performers, that they have not thought as to what the after results are—canker and gumming, to wit; and the nearest approach I would care to advise in that direction is the removal of a few long spurs, with the intent of inducing the pushing of new buds "closer home" as we call it, that trees on walls may, when in flower, have the full benefit that wall-copings afford in the direction of protection from spring frosts; and in a lesser degree the same idea holds good in respect of keeping the spurs on bush and pyramidal-shaped trees close home, and under the protection of the main branches. I thought that I could best explain my meaning as to the removal of these spurs by a portion of the branch of a tree pruned for the purpose, as also I can of what I mean by summer pruning, or, as I prefer to call it, *repression* of growth, in order to induce fruitfulness. If such repression of growth by pinching back the shoots to the second or third leaf of the new growth be done twice, or at most thrice, during the summer, very little winter pruning is ever needed, and fruit buds by this operation are, as it were, manufactured by force. That winter pruning, to a larger extent than is here stated, may sometimes be necessary I do not deny; to do so I should belie my own practice, inasmuch as it is no uncommon occurrence for me to allow any tree that seems waning in vigour to grow at random the whole of the season, and give extra supplies of manurial waterings the while. Winter pruning is, of course, then a necessity, but it is done with all the mercy possible, the young shoots being in some instances laid in over the old, disregardful of appearances. In this manner not a few trees have been coaxed into renewed vigour and fruitfulness.

Manures; how and when to apply them.—Pears are like most other fruit trees—they are by no means fastidious as to the kind; still, there is a *best* they relish most, and that is farmyard manure. I have never been fortunate enough to fill the combined post of bailiff and gardener, and consequently not had the opportunity of testing to the full the merits of this kind of manure, but the little that sometimes I have been able to borrow has afforded proof positive that it is deserving of the honour of *first* place. An excellent substitute is that of ordinary stable manure. This comes to use in the straw state, and all that we need for fruit-tree mulching purposes is stacked for some weeks before it is used; ashes from brushwood, hedge clippings, and refuse leaf-heap burnings being mixed with it, and when it is about what may be described as half-decayed, it is then ready for application. Artificial manures are excellent in their way, but if their properties are to last for any length of time they must be mixed with soil, and that is not always convenient. The *next* best way is to scatter them over the soil and immediately cover with a thick layer of long litter, then water to saturation. The two descriptions of animal manures may be safely applied to a depth of from six to nine inches, and as far round the base of the trees as it is thought the roots extend. The time to apply the manures is *all the year round*, not that the trees do not relish an extra supply at certain seasons. Pears do, and more especially at the time of the first swelling of the fruit, *i.e.* immediately the fruit has set. At any cost of labour an effort should be made, at that stage of growth, either to give a thorough watering with liquid manure, or, lacking that, sufficient clear water over the newly applied mulching as will reach every root of the trees. The effect on the swelling fruit is magical. The same process should be repeated twice afterwards, namely, when it is half-grown, and again when the final swelling commences. The manurial mulching of trees on walls should be renewed twice a year; my own practice is to do the work any time between now and December, and the mode of operation is to lightly rake off the old mulching, give a slight dressing of fresh loam, crushed bones, and wood ashes, and over this the mulching; this is the winter dressing not only of Pears, but of all our fruit trees on walls. I ought, perhaps, to add that the mulching extends to a distance of four feet from the walls. The second application is not so generally necessary, except *for Pears*, and these we never fail to re-mulch some time during the months of March or April. I have been thus particular to describe what I consider the *best* mode of manuring. It does not follow, however, that all trees need it—one's own judgment must decide that point—nor does it follow that there are not other excellent modes of applying stimulants. We have a number of trees that are neither mulched nor have manure *directly* applied to them, but being planted at the back of a Rose border that biennially is trenched deeply and manured freely a large proportion of roots dispute the right of the Roses to a monopoly of the manure, and, so long as they continue to produce fine fruit in quantity, it is hardly worth while to take notice of the trespass.

Aspects, and Forms of Training.—There are varieties of Pears that do well in any aspect, east, west, north, or south; but south, south-west, and west are undoubtedly the aspects best suited to Pears in general. I do not now refer to aspects of walls, but to the garden as a whole. In a garden with a slope to any of the quarters of the compass here mentioned Pears may be planted in any part of it with the best results. But, with my present notions in regard to the importance of every tree having its own plot of ground to itself, I should, of course, advise the setting apart of the warmest and most sheltered quarters in the garden, having a south or west aspect, for Pear cultivation; and the distance from tree to tree must necessarily be decided by the form the trees are to be trained. Personally, I give preference to the pyramidal form of training, and the distance apart for trees on the Quince stock should be six feet, and be planted in angular lines, which will allow of easily getting about among the trees, and of the admission of full sunlight to every tree. Should the soil be considered better suited for the growth of trees on the natural stock, plant in the same way, but the distance apart should be increased to ten feet. Low horizontally trained cordons, that one sometimes sees outlining the boundary of kitchen-garden walks, are pretty, but I fear this is their greatest merit. Cordons for profit are such as are shown in this picture, which is a faithful representation of trees trained over a walk in the gardens under my superintendence.

The cordon mode of training for Pears is worthy of general adoption for a variety of reasons, the one of all others being that it is the best way of prolonging the Pear season. I shall best explain my meaning by quoting a circumstance in which I was personally concerned. From a large horizontally trained tree, Williams's Bon Chrétien, growing on a west wall, a couple of bushels or more of good fruit was annually gathered, a quantity far in excess of what was required for home consumption, and consequently, in the endeavours made to make them last for the longest period, a large percentage was lost. The proposition was made to me to destroy this tree and plant cordons, and, like an obedient servant, I complied. The space that that tree occupied is to-day furnished, not with one tree, but with thirty, in nearly as many varieties, from which we obtain more fruit and a season of ripe fruit extending for two months or more, instead of three weeks as formerly. The most profitable form of training on walls is as single cordons two feet apart, and the only other form worthy of adoption is the horizontal, twelve feet apart. Wall space for Pears in parts of the low-lying eastern counties, the midland and northern counties of England, and Scotland, is *imperative* if good fruit be desired ; but residents to the south, south-west, and west of England attach far too much importance to that necessity. Take, for example, any of the early varieties that ripen in July, August, and the early part of September, and grow them on walls with a south or west aspect. Grow the same varieties on bushes, pyramids, or cordons in the open garden, and compare notes as to quality. The wall fruit will be found to be mealy or gritty, perhaps both, and lack the piquancy of the same varieties of fruit grown in the open garden, not to mention the longer preservation of the open garden fruits. I do not overlook the necessity of having abundant wall space for the best later ripening varieties, but it is to gain this that I strongly advise the relegation of early and second-rate mid-season kinds to the open garden. The varieties most worthy of the best aspects on walls are Beurré Superfin, Beurré Hardy, Louise, Bonne of Jersey, Seckle, Doyenné du Comice, Marie Louise, Pitmaston Duchesse, Thompson's, Winter Nelis, Glou Morceau, Huyshe's Victoria, General Todtleben, and Easter Beurré.

The Best Varieties.—I think that the difficulty next to a bad climate for Pear cultivation is the bogey of varieties. I was recently informed by a friend, who ought to know, that a certain Continental nurseryman grows four hundred varieties. I don't envy the man in charge of them, nor the customers that buy the trees "true to name"; I only hope the latter may not be disappointed. To make a selection from sixty varieties is bewildering to many, yet I question whether this number is not exceeded by all fruit-tree nurserymen of note in England. And it is to these we should appeal to make a combined effort to reduce numbers by refusing to catalogue any but varieties that are known to be good. Granted that in varying soils, positions, and districts the quality of Pears vary greatly, and sufficient margin as to numbers of varieties is necessary to cope with these freaks. As to what the lowest number should be I won't venture to suggest, lest I find myself in a minority of one.

But now as to the best varieties. In a short paper that I read at the Apple and Pear Conference at Chiswick, a year ago, I named twenty-five varieties that I considered best for dessert. I do not see my way to erase any kinds mentioned in that list, and I therefore reproduce it here. Their names are Souvenir du Congrès, Williams's Bon Chrétien, Beurré d'Amanlis, Fondante d'Automne, Louise Bonne of Jersey, Madame Treyve, Beurré Hardy, Beurré Superfin, Seckle, Marie Louise, Doyenné du Comice, Thompson's, Duchesse d'Angoulême, Glou Morceau, Winter Nelis, Comte de Lamy, Beurré Bachelier, Josephine de Malines, Winter Crasanne, Huyshe's Victoria, Olivier de Serres, Easter Beurré, Ne Plus Meuris, Knight's Monarch, and Bergamotte d'Esperen. To this list I now add the names of three varieties that I consider the best for cooking; they are Catillac, Black Worcester, and Verulam.

When to Gather the Fruit, and how best to store it.—I am inclined to think that there is no gardening operation which requires longer practice to attain proficiency than that of being able to know when a Pear is ready to gather, as on the time of gathering hinges in a large degree the quality of the fruit, because, if harvested too soon, the fruit shrivels and never ripens well, and if left on the trees long—particularly early varieties—it becomes insipid. Hence the importance of every young gardener learning by close observation the right time to harvest Pears. It is said that there is no rule without exception, and I suppose it is true as regards the gathering of Pears, though the exceptions I know are few, and novices at Pear-gathering need not therefore be afraid that they will get far wrong if, when called upon to gather Pears, they adopt the following methods to decide whether or no certain kinds are really fit to harvest: Slightly raise the fruit—do not pull or use any force—and if by this gentle heaving the fruit parts readily from the branch, then they may with safety be gathered. Another test is to cut open a fruit, examine the pips, and, if these are dark brown or black, and firm to pressure, it is safe to gather. As a matter of course, a dry day must be chosen for the work, and the fruits be handled with the same care as if they were soft Peaches. As to how best to store the fruit, I can only relate my own practice, which has proved to be—I will not put it stronger than *moderately successful.* Our fruit-room is built behind a high wall, the aspect of it being due east. The walls are hollow throughout—I perhaps ought to have said have an air cavity between the outside and inside walls—consequently in damp weather the room remains comparatively dry, in cold weather warm, and in hot weather cool. It is ventilated, in chimney fashion, through the roof, and air can be given or not at pleasure. It is fitted throughout with shelves, or tables formed with strips of wood, three inches wide, and between each strip is a half-inch space, so that there is ample space for the escape of any moisture that may be given off by the fruit; and air has free access—I have sometimes thought too free for long keeping—hence the thin layer of clean wheaten straw, on which the fruit is laid, in single layers should space admit of it, and on no account should I think of having more than a double layer, and this to be single as space became vacant. I have seen larger and grander fruit-rooms, but none, all points considered, better adapted to fruit preservation than the room just described.

My task is done. I am conscious of its many literary blunders, but I know you will be charitable to these, when I assure you that I have done my best, and that the whole is a faithful record of work done, much of it with an immensity of pleasure, and some in the face of great difficulties, lightened, however, by the approval of the most appreciative employer that ever breathed.

EXTRACTS FROM THE PROCEEDINGS
OF THE
ROYAL HORTICULTURAL SOCIETY.

GENERAL MEETING.

JANUARY 15, 1889.

Sir TREVOR LAWRENCE, BART. M.P., President, in the Chair.

ELECTIONS.

Fellows, 20.—Francis Abbott, Arthur Briant, W. H. Clark, A. E. Collins, W. C. Dalrymple, Francis Darwin, F.R.S., H. F. Dibben, M.A., Dr. E. Frankland, Rev. G. P. Haydon, W. C. Leach, Rev. T. H. Marsh, Rev. C. O. Miles, Mrs. Morris, Robert Owen, J. T. Templer Powell, J. W. Silver, Dr. Charles N. Simons, Fred. Turner, George Wilks, M.D., Ernest Wood.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and twenty-eight members present.

Awards Recommended :—

First-class Certificate—

Vanda Amesiana (16 votes for, 3 against) from Lord Rothschild, Tring Park. Gardener, Mr. E. Hill. A beautiful dwarf-growing species of comparatively recent introduction. The plant bore a spike of five delicately scented flowers; the sepals and petals narrow, blush tinted; the lip crimson in the centre, fading off to a lighter margin.

Chinese Primula "Swanley Mauve" (11 for, 8 against) from Messrs. H. Cannell & Sons, Swanley. Flowers single, large and of good shape and substance, of a clear mauve colour; habit of plant, robust. A decided improvement on the "blue" type.

Award of Merit—

Chinese Primula "Miss Inez" (23 for, 1 against) from Mr. J. Knight, Epsom. Flowers semi-double, almost white; foliage prettily crested.

Chinese Primula "Princess Mary" (unanimous) from Messrs. Cannell, Swanley. Flowers single, large and well formed, of a rosy blush colour.

Other Exhibits.

Mr. Hill showed a plant in flower of Phalænopsis Rothschildiana, a hybrid between P. Schilleriana and P. Aphrodite (amabilis, Lindl.). It appeared to be almost exactly intermediate between the two parents. Sepals and petals white, lip spotted with crimson.

Mr. Pollett, of Bickley, brought a plant of Odontoglossum crispum rubro-maculatum, with a spike of nine flowers of the purest white save where the lip is blotched with a reddish chocolate colour. Mr. Pollett also showed a variety called O. c. bickleyense of very robust growth, the flowers being large and of a creamy white colour, with large chocolate blotches.

Messrs. Seeger & Tropp, of Dulwich, sent a hybrid Cypripedium called C. Savageanum, a cross between Harrisianum and Spicerianum.

Sir E. Saunders, Wimbledon Common (gardener, Mr. A. Newell) sent a well-bloomed specimen of Eucharis amazonica, bearing upwards of fifty flowers.

From Sir G. Macleay, of Pendell Court (gardener, Mr. F. Ross), came Billbergia decora, bearing a long spike of greenish flowers with large rosy bracts.

From Baron Schröder (gardener, Mr. Ballantine), came cut spikes of four exquisite Lælias, Anceps Dawsoniana, Sanderiana, Percivaliana, and Stella.

Messrs. Cannell exhibited cut flowers of a double yellow Bouvardia—flavescens fl. pl. The Floral Committee requested to see a plant of this Bouvardia in order to judge of its habit.

FRUIT COMMITTEE.

R. D. BLACKMORE, Esq., in the Chair, and twenty members present,

Lord Suffield, Gunton Park (gardener, Mr. W. Allan), sent some bunches of grape, "Mrs. Pearson," well coloured, in fine condition, and of good quality. Mr. Allan wrote that he considered that we have no white grape of such high quality that will keep so long in good condition.

The Rev. W. Wilks, Shirley, brought some large and handsome fruits of Pear Doyenné d'Alençon from a tree grown in a pot. They were considered a little over-ripe and somewhat gritty.

The Rev. H. Arkwright, Bodenham (gardener, Mr. J. Davis), sent fruit of a seedling apple which was stated to be a good bearer every year, the tree of large size, vigorous growth, and erect habit, with large leaves like *Warner's King.* The fruit was large and conical, flushed and streaked with bright crimson, greatly resembling Brabant Bellefleur. The Fruit Committee requested to see this apple again, and to be supplied with information as to its origin, &c.

SCIENTIFIC COMMITTEE.

F. P. PASCOE, Esq., F.L.S., in the Chair, and eight members present.

Orchid Bulbs attacked by Insects.—Mr. Morris drew attention to an insect found to attack orchids at the Botanical Gardens, Trinidad. The injury is done chiefly at night. This orchid "bug" is considered by Mr. Distant to be an undescribed species of Eccritotarsus, who purposes describing it in a forthcoming number of the *Entomological Monthly Magazine* as E. exitiosus. Mr. McLachlan suggests that any remedies found effective in the case of "mealy bug" would be effective in this case as well. In America he says they prefer Paris green, a cheap form of arsenic, for the treatment of insect pests.

Icerya Purchasi (Maskell), *Plate of.*—Mr. Morris also exhibited a plate of this insect, shortly to appear in the *Kew Bulletin,* illustrating its characters and life-history. It is known as the "Cottony Cushion Scale," and is one of the most destructive pests. It attacks equally the acacia, orange, and other plants, and has caused great damage to the orange groves of California and Florida. It is fully described in the report of the *Entomologist,* U.S., Dep. of Agric., 1886, p. 474, *seq.*; also by Maskell in his account of the scale insects of New Zealand, pl. xix., page 104. The insect does not appear to have been introduced into plant-houses in this country as yet. It is, however, a pest that English horticulturists would do well to look out for, and to treat at once should it make its appearance. Mr. McLachlan observed that it had been thought by some to be identical with the old sugar-cane pest, I. sacchari.

Lime with Contorted Branches.—With reference to the tree sent to the last meeting by Mr. Swailes, of Beverley, he writes in addition: "I have to-day looked over the growth of a few scions I took off the tree in the spring and grafted, and find that they all show the same peculiar contorted growth, which I should imagine would be permanent."

Fraxinus monophylla, fasciated.—Mr. Swailes also sent a fine specimen of a fasciated branch from this tree. The ash, as is well known, is peculiarly liable to this affection. It was remarked by Mr. O'Brien that in the last season the common ox-eye daisy was frequently fasciated. With regard to this affection becoming permanent, Dr. Müller said that it has been repeated for two years in Weigelia. Dr. Masters had noted the constancy of it in Lilium speciosum, Mr. Oliver in larkspurs at Kew; lastly, Mr. Henslow reminded the Committee of the fact that the synanthic condition of the flowers of tomato was a species of fasciation perpetuated by seed. The actual cause appears to be a little obscure, though the somewhat vague expression of hypertrophy might partially account for it.

Disa lacera, Tubers withstanding Frost.—Mr. O'Brien exhibited several tubers of this South African orchid, which appeared to be perfectly sound, having been twice hard frozen in soil, which formed a hard mass for two winters.

Winter Moth, Capture of.—Mr. G. F. Wilson exhibited a method of catching this moth, which was most effective. He observed that the *Agricultural Gazette* of October 15, 1888, recommended that in neighbourhoods where the winter moth was abundant, a ring of cart grease and Stockholm tar, or of cart grease alone, should be daubed round the stems of fruit trees near the base. Last year his apple trees at Wisley had their leaves eaten by caterpillars; he, therefore, tried tying a strip of the green scrim of the Willesden Paper Co. round the bottom of the stems, and smeared this with cart grease. This was done in November and December. The strip exhibited by Mr. Wilson was covered with wingless females interspersed with several winged males, proving the effectiveness of the method adopted.

ANNUAL GENERAL MEETING.

February 12, 1889.

Sir Trevor Lawrence, Bart., M.P., in the Chair.

The minutes of the last Annual Meeting of February 14, 1888, and of the Special General Meetings of April 10 and November 13, 1888, were read and signed.

The following ladies and gentlemen were elected:—

Fellows, 29.—S. R. Alexander, Capt. Austen, Charles H. Betts, Clement Braby, A. Brooke, Robert Bushnell, Mrs. Chute, J. Colman, Mrs. Crum, J. F. W. Deacon, Miss F. De Leon, W. H. Divers, J. Ellis, Rev. K. F. Gibbs, H. B. Greenfield, J. Harkness, Lt.-Col. A. H. Hyslop, William Iggulden, H. F. Nalder, Charles Osman, Arthur Robinson, George Shayler, S. Soutar, Herbert Sutton, T. H. Sykes, Miss Thain, W. W. Woosnam, J. R. Wooster, Mrs. Worrall.

Associate.—Donald McDonald.

Messrs. H. M. Hamilton and A. H. Pearson were appointed Scrutineers of the ballot for Council and officers.

On the motion of the Chairman, seconded by Surgeon-Major Ince, a hearty vote of thanks was accorded to the retiring members of Council, viz.: W. T. Thiselton Dyer, C.M.G., F.R.S. Professor M. Foster, Sec. R.S., Robert Hogg, LL.D., F.L.S., Sir E. G. Loder, Bart., H. J. Veitch, F.L.S., and Geo. F. Wilson, F.R.S.

The balloting for members to fill the vacancies on the Council was then proceeded with, the following gentlemen having been proposed for election, viz.: Messrs. J. R. Bourne, W. Coleman, S. Courtauld, H. J. Pearson, T. F. Rivers, and Sir Charles Strickland, Bart.

The following gentlemen were proposed for re-election as officers, viz.: *President*, Sir Trevor Lawrence, Bart., M.P.; *Treasurer*, D. Morris, M.A., F.L.S.; *Secretary*, Rev. W. Wilks, M.A.; *Auditors*, W. Richards, Harry Turner, and Geo. Deal.

After careful examination of the ballot papers, the Scrutineers reported that the above-named gentlemen were all duly elected.

The Chairman, in moving the adoption of the Annual Report and balance-sheet, said that he would not trouble the meeting with any lengthy remarks, as the admirable report, for which they were chiefly indebted to their Hon. Sec. (Rev. W. Wilks), had been sent by post to all Fellows of the Society, so that all who had read the report were fully acquainted with the course which had been adopted since last year.

It would not be disputed that the Society had made great strides during the past year. To look at one point alone—the improvement in its financial position gave the Society every reason to congratulate itself. It began the year 1888 with a debt of £1,152, embracing liabilities of the years 1886–7. That debt had been paid off, partly from the donation fund and partly from the general revenue, so that the Society was now perfectly solvent, and had on December 31 last a balance in hand of about £200.* The net increase in the number of Fellows during the year was 528, representing an income of £685. 15*s.*

There were some expenses incurred last year which would not be incurred again, such as the expenditure on the Gardens at South Kensington to the end of March (£142. 9*s.* 11*d.*), and the account for moving to the new quarters in Victoria Street (£100). And here he would like to contrast the £80,000 which the Society disbursed in going to South Kensington, with the £100 spent in coming to Westminster. He was inclined to think that whereas the former move had, as a matter of fact, involved them in loss both of money and prestige, the latter would operate quite to the contrary. Another item of expenditure, which had for the present ceased, was the salary of the Assistant-Secretary (£200 a year), the duties being, for the most part, undertaken by the Hon. Sec. (Rev. W. Wilks), to whom it was impossible to refer without paying a tribute to his capacity, energy, and untiring industry, which alone had enabled the Council to save this heavy item of expenditure.

With regard to the ensuing year, it was expected that the income would reach £3,000, and the expenditure £2,950, a very narrow margin, but he hoped there would be a considerable influx of new Fellows, in order that the Society might be able to extend its work, and carry out the extensive programme which had been prepared, and which was set forth in the schedule of arrangements. He thought that if the Fellows were indebted to the Hon. Secretary for his valuable services, they were equally under an obligation to their indefatigable Treasurer (Mr. Morris), whose ability and vigilance had been of great assistance to the Council, and would, he was sure, be appreciated by all who knew the enormous financial difficulties with which the year 1888 opened.

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* Besides this there is a balance of £365. 16*s.* 6*d.* to the credit of the Donation Account.

The gross cost of Chiswick for the year was £1,501. 6*s*. 8*d*., but the returns for produce sold amounting to £810. 4*s*. 3*d*., made the actual expense of the Gardens £691. 2*s*. 5*d*. He remarked that the Council were most anxious for the resources of Chiswick to be developed as much as possible. It was pointed out in the report that any money the Society might have in hand from the current revenue would be spent in putting Chiswick in thorough repair. The deficit on the Temple Show last year was about £100, probably due to the unfavourable weather on the first day. However, he hoped there would be a considerable profit this year. There was only one opinion, horticulturally, about the Temple Show in May last, viz.: that it was a truly magnificent display, not the least interesting part of which was the produce grown for the London markets. He hoped this interesting feature would form a still greater attraction at the forthcoming show. The Society had elected a large number of new Fellows during the past year, and for a great many of these they were indebted to Mr. Wilson, who had been mainly instrumental in making the guinea fellowship a success.

There was little more for him to trouble the meeting with, except to refer to the Apple and Pear Conference which was held at Chiswick during the autumn, and was attended by large numbers of people. The report of that Conference was in course of preparation, and would be published in the Society's journal.

They had been told last year that the presence on the Council of two gentlemen from the national establishment at Kew would militate against the successful working of the Society, and that the remaining members of the Council would be unable to hold their own against these two gentlemen. They were told a similar tale this year respecting the presence on the Council of members of the horticultural trade, but he ventured to prophesy that this latter assertion would prove as unfounded and untenable as the former had proved, and that these gentlemen would represent faithfully, not only the interests of the trade, but the highest horticultural interests also. It was proposed to revive the periodical publication of the Journal of the Society, which he trusted would prove of value and interest to Fellows residing at a distance, and acquaint them with the work going on in the Gardens at Chiswick, over which Mr. Barron had presided so ably for a number of years. He begged to move the adoption of the report.

Surgeon-Major INCE seconded the motion, and was pleased to observe the spirit of harmony which had pervaded the meeting.

Mr. HAUGHTON said that he thought the balance of £200 in the revenue account might be looked upon as most satisfactory, and though he was one of those who had disapproved of the policy pursued in the early part of the year, he was still heartily glad the Society had prospered.

Mr. DEAN, in answer to a question, was informed that the date of the Chrysanthemum Centenary Conference at Chiswick had been changed from November 12 and 13, to November 5 and 6.

The CHAIRMAN, in replying to a remark relating to the Drill Hall, said that the Council were fully conscious of the disadvantages attaching thereto, but until some other building with fewer disadvantages could be secured, they must needs be put up with, and he thought that, in spite of all drawbacks, the shows were visited by horticulturists more than the Fellows were aware of, and he thought the general public did not know the variety and interest of the plants, &c., exhibited, or they would attend in larger numbers.

The report was then unanimously adopted.

On the motion of Surgeon-Major INCE, seconded by Mr. PEARSON, a hearty vote of thanks was accorded to the Chairman, and the proceedings terminated.

REPORT OF THE COUNCIL FOR THE YEAR 1888.

Whenever the history of the Royal Horticultural Society comes to be written, the year 1888 will be recognised as having been one of the most critical periods in the society's existence. The opening of the year found the society compelled to quit South Kensington at Lady Day, and with no idea of where its future lot would be cast. In order to give the Fellows at large an unrestricted power of selection, the whole of the council had tendered their resignation, but when at the annual meeting the new council was chosen, it was found that ten of the old members had been re-elected, and thus a desirable continuity was preserved. The council wish to express their great regret at the loss they experienced in the death of Mr. Woodbridge in the early part of the year, into whose place Mr. Douglas was chosen.

The first work of the council was, of necessity, to secure a suitable home for the society, and after a great deal of time and attention bestowed in examining various sites, they decided on engaging No. 117 Victoria Street, Westminster, for the permanent offices, and for the society's and the Lindley libraries. They also entered into a temporary agreement for the use of the drill hall of the London Scottish Volunteers in James Street, Victoria Street, for holding meetings and shows. The council fully recognise the drawbacks attaching to the drill hall, but they failed to find any other sufficient building in London that is not attended with equal, if not with still greater, drawbacks as regards either light, situation, or cost.

The society commenced the year with a debt of £1,152, which has happily all been discharged, chiefly by means of donations in accordance with the list given in the appendix of this Report. Expenses amounting to £99. 16*s*. incurred in the removal of the offices, and of the Lindley library,* have also been paid, and a balance of £365. 16*s*. 6*d*. is now lodged in the bank to the credit of the Donation Fund.

The statement of receipts and payments (other than donations), together with the balance-sheet and auditor's report, will be found in the Appendix. It will be noticed that there is a considerable increase as compared with the year 1838 in the amount received from annual subscriptions, and for produce sold from the Chiswick Gardens, the total sum received in 1888 being £4,372. 16*s*. 3*d*., as against £2,894. 4*s*. 10*d*. in 1887. The council have, therefore, every confidence that the society have now surmounted its financial difficulties; and, with a regular increase in the number of Fellows joining the society, there is little doubt but that it has a long and honourable career of usefulness before it.

During the year 1888, 657 Annual Fellows have been elected, representing an income of £924. 4*s*. On the other hand, eighty-one Fellows resigned, and forty-eight died, representing a loss of £242. 11*s.*; the net increase of Fellows thus being 528, representing a net increase of income of £685. 15*s.* The total number of Fellows on the society's books on January 1, 1889, consisted of 556 Life Fellows, 1,080 Annual Fellows, and six Associates.

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* Towards the expenses of moving the Lindley Library the Trustees contributed the sum of £20.

A finance committee, consisting of Baron Schröder, Mr. T. B. Haywood, Mr. H. J. Veitch, and the Treasurer, has devoted considerable time and thought to regulating the accounts of the society. Strenuous effort has been made to investigate every item of income and expenditure, and while in many cases more economical methods have been adopted, the efficiency of the machinery of the society has been greatly increased.

The prospects for the current year may be briefly summarised thus:—The income, on the basis of the experience of the past year, is expected to be not less than £3,000; while the expenditure, involving no new or extraordinary services, is expected to reach £2,950. It is proposed to devote any increase in income which may arise specially to improving the Chiswick Gardens, and to reviving the publication of the *Society's Proceedings and Journal*, which will contain information having a direct bearing upon the science and practice of horticulture.

The revision of the society's bye-laws in the sense desired by the last annual meeting has occupied a very considerable time, and a great deal of attention. The work has been, to a great extent, done by the Honorary Secretary in consultation with the committee of Fellows (to the members of which the council desire to tender their thanks), and the result, after being approved by the society's solicitors and by the council, and submitted to two general meetings, was finally adopted on the 13th November.

The council think they may fairly congratulate the Fellows on the magnificent show held on 17th and 18th of May, by the kind permission of the Treasurer and Benchers in the Gardens of the Inner Temple—a show by which amongst other things attention was drawn to the excellent work being done for horticulture by the market growers of the London district. The council beg to record their grateful thanks to the Treasurer and Benchers for again allowing the use of their garden, and express a hope that the show this year (1889) may be as great a pecuniary success as it undoubtedly was last year horticulturally. Success largely depends on the weather, and this, last year, was the only unpropitious element with which the show had to contend.

The Conference on apples and pears, held at Chiswick from October 16th to 20th, attracted a great deal of attention and will prove very helpful to intending planters. The display of fruit was, considering the season, magnificent; and the hearty thanks of the council are due to all who so kindly contributed to it, as also to all the readers of papers which, with the discussions that followed, excited very great interest. The council are glad to find that the report of the Conference, which is being prepared by the Superintendent and the Honorary Secretary, and which is now almost ready for press, is being inquired for from all parts of the world. The apparent delay in its publication is due to two causes, the enormous amount of statistical work it involves, and the great pressure of work which has lately been thrown on Mr. Barron.

The Exhibition of Plants, Flowers, Fruits and Vegetables at the bi-monthly meetings has been, taken as a whole, all that could be desired; but the council are sorry to have observed that on some occasions the attendance of Fellows has fallen short of their expectations. This is partly, no doubt, attributable to the change of locality, the ease with which the drill hall can be reached from all parts being not yet sufficiently known. Fellows, however, can have but little idea of the loss they sustain by not attending these meetings, where the newest plants and greatest improvements in culture are from time to time to be seen.

With a view to popularise the bi-monthly meetings, the council have determined to revive the once so popular three o'clock afternoon meetings, with a short lecture and discussion at each on some of the plants &c. exhibited. The council invite the co-operation of all Fellows and lovers of gardens to help make these gatherings instructive, useful, and pleasant. A reference to the Schedule of Arrangements for 1889 will show the promises already received.

The council have also decided to revive the publication of a periodical Journal and Report of the Society's proceedings, meetings, and work. This, it is hoped, will convey useful and interesting information to Fellows living at a distance, and to others who, from any cause, may be debarred from attending the meetings, or studying the work going on always at Chiswick.

Last, but not least, the council have resolved, to the utmost extent of their means, to revive the gardens at Chiswick, which have fallen into an unsatisfactory state, owing chiefly to the hitherto unavoidable expenditure at South Kensington; and they are glad to report that the work at Chiswick already shows healthy signs of revival, owing to the unremitting attention bestowed by the Garden Committee, consisting of Colonel Beddome, Dr. Hogg, Mr. George Paul, Mr. Shirley Hibberd, and Mr. Herbst, with the Treasurer and Honorary Secretary, whose exertions have been loyally seconded by the Superintendent. All available funds have been bestowed on the repair of the glass-houses and on the general work.

The several Committees—the Scientific, the Fruit and Vegetable, and the Floral—have been unremitting in their exertions during the year, and the thanks of the society are due to all who have so kindly devoted their time and ability to them. But whilst the work of the individual members has been beyond praise, the council have felt that the organisation of the Committees themselves called for some re-adjustment. They have therefore determined that in future the members of all the Standing Committees shall be chosen out of the general body of Fellows, and that the Fruit and Vegetable, and the Floral Committees shall each consist of about 40 members, half of whom shall be drawn, as far as possible, from the London district, and half from the country at large.

It is also thought very desirable to give greater value to the First Class Certificate of the Society, and, with this object in view, the council have constituted another order of Commendation, to be called "The Award of Merit," in the hope that the Committees will be able by its use to discriminate between what is really a first-class introduction or novelty, and what is simply a meritorious advance on or variation of some well-known and established plant.

To enable the council to judge of the relative value of the several recommendations of the respective Committees, and to assist them in their deliberations as to the expediency or otherwise of confirming these recommendations, a list will be in future prepared and laid before them of the number of members of Committee present on each occasion, and of the number voting for or against each proposed recommendation. These numbers will be printed in the Society's Journal, and will be of the utmost assistance to Fellows in estimating the general opinion of the Committees on the subjects under discussion.

The council cannot close their report without expressing their deep regret at the cause which compels Mr. John Lee to retire from the Auditorship of the society, which office he has so long and so conscientiously filled. The society, in common with all horticulturists, owes a deep debt of gratitude to Mr. Lee, and will anxiously look for his restoration to health. Fellows will, however, feel confident that the accounts are in good hands when they learn that Mr. George Deal has kindly accepted Mr. Lee's place on the audit in conjunction with Messrs. Richards and Turner.

Fellows will gather from this Report and from the Schedule of Arrangements 1889, already referred to, how great is the desire of the Council to extend in every direction the legitimate horticultural work of the society, and that they will eventually be able to do this they do not allow themselves for a moment to doubt; but the rate of progress depends almost entirely on the zeal of individual Fellows in introducing new Fellows. Many of those residing at South Kensington are falling off owing to the Society's removal, the site of their Gardens having been granted to the Imperial Institute, and unless their places are filled, and more than filled, by new Fellows, it is plainly impossible for much advance to be made. The Council, therefore, appeal earnestly to all Fellows who desire to see the really horticultural work of the society prosper, to assist it by enlisting new Fellows, for which purpose a nomination form is sent with this Report, in the earnest hope that ere long it may be returned duly filled up.

AUDITORS' REPORT.

To the President and Council of the Royal Horticultural Society.

Gentlemen,—Having examined the books of the society and compared the vouchers, we beg to report that we found the same correct, and the clearness of the book-keeping by Mr. Dick quite satisfactory.

We have the honour to remain, Gentlemen,
Your most obedient servants,
W. Richards
Harry Turner } *Auditors.*
George Deal

January 25, 1889.

Dr. ANNUAL REVENUE ACCOUNT for the

	£	s.	d.	£	s.	d.
To ESTABLISHMENT EXPENSES—						
Salaries	448	7	11			
Wages	47	8	0			
Rent	90	0	0			
Printing and Stationery	123	12	10			
Postage	80	18	8			
Gas and Water	9	9	11			
Coal	1	3	0			
Miscellaneous	66	1	3			
Removing and fitting up Offices and Library ...	99	16	0			
				966	17	7
„ CHISWICK GARDEN EXPENSES—						
Rent, Rates, Taxes, and Insurance	286	1	10			
Superintendent's Salary	206	5	0			
Labour	587	10	1			
Plant and Seed Distribution	8	16	0			
Implements, Manure, &c.	92	19	9			
Coal and Coke	172	9	3			
Gas	2	9	11			
Repairs	45	11	9			
Water	12	14	5			
Expenses of Show of Chiswick Horticultural Society	13	10	11			
Miscellaneous	72	17	9			
				1,501	6	8
„ KENSINGTON GARDEN EXPENSES to March 25, 1888—						
Rates, Taxes, &c.	19	5	0			
Superintendent's Salary	25	0	0			
Labour	61	6	0			
Repairs	4	5	0			
Coal and Coke	28	1	9			
Water	4	12	2			
				142	9	11
„ EXHIBITIONS and MEETINGS—						
Rent of Drill Hall and Cleaning	86	11	0			
Advertising	24	10	6			
Prizes and Medals	37	12	1			
Fruit and Floral Committees	89	5	7			
Superintendent of Flower Shows	43	15	0			
Labour	74	8	11			
Miscellaneous	6	16	0			
Temple Show	382	0	10			
Apple and Pear Conference	57	0	3			
				802	0	2
				3,412	14	4
„ ANNUAL SUBSCRIPTIONS—						
Balance of Subscriptions (1887) unpaid now written off				110	5	0
„ COLONIAL COMMISSION ACCOUNTS—						
Balance written off				2	7	7
„ BALANCE TO GENERAL REVENUE ACCOUNT...				908	16	10
				£4,434	3	9

YEAR ending 31st DECEMBER, 1888. Cr.

	£	s.	d.	£	s.	d.
By ANNUAL SUBSCRIPTIONS...				2,252	3	0
„ DONATIONS ACCOUNT—AMOUNT TRANSFERRED				755	7	6
„ CONTRIBUTION FROM LINDLEY LIBRARY TRUSTEES, on account of moving				20	0	0
„ PEAR CONFERENCE (1885)—REPORTS SOLD...				11	14	9
„ SCHEDULES ADVERTISEMENTS				30	16	6
„ CHISWICK GARDENS—						
Sale of Produce	737	7	6			
Melbourne Exhibition for Fruit Exhibits	10	0	0			
Admission and Members' Tickets	28	9	9			
Packing Charges Refunded	4	7	0			
Chiswick Horticultural Society on account ...	30	0	0			
				810	4	3
„ MISCELLANEOUS RECEIPTS—						
Old Canvas sold	54	12	0			
Received against old Debts written off as bad ...	25	19	2			
Sundries	7	3	2			
				87	14	4
„ ADMISSION PAYMENTS—						
Bi-monthly Meetings				22	3	8
Temple Show				278	17	1
Apple and Pear Conference				21	1	0
„ DIVIDENDS—						
Davis Bequest and Parry Legacy (including Bonus of £20. 15*s*. 2*d*.)				82	14	2
				4,372	16	3
„ SUNDRY CREDIT BALANCES IN LIST, December 31, 1886, now written off				61	7	6
				£4,434	3	9

We have examined the above Accounts with the Books and Vouchers, and we find the same correct.

W. RICHARDS
HARRY TURNER } *Auditors.*
GEORGE DEAL

January 25, 1889.

BALANCE SHEET, 31st DECEMBER, 1888.

Dr.

	£	s.	d.
To SUNDRY CREDITORS	324	16	10
„ DONATIONS RECEIVED—			
Balance of Account	365	16	6
„ GENERAL REVENUE ACCOUNT—			
Balance of that Account	2,103	5	3
	£2,793	18	7

Cr.

	£	s.	d.	£	s.	d.
By DEBTORS, viz. :—						
Annual Subscriptions outstanding	63	0	0			
Garden Produce	47	11	10			
Pear Conference Reports sold ...	8	2	1			
Chiswick Horticultural Society ...	30	0	0			
				148	13	11
„ INVESTMENT—						
Consols £2,122. 8*s.* 9*d.* *cost* ... ... (£2,022. 8*s.* 9*d.*) of this sum is held by the Society, subject to the provisions of the will of the late J. Davis, Esq.)				1,892	11	3
„ PETTY CASH IN HAND				25	5	2
„ LONDON AND COUNTY BANK—						
Donation Account				365	16	6
Current Account				361	11	9
				£2,793	18	7

We have examined the above Accounts with the Books and Vouchers, and we find the same correct.

W. RICHARDS
HARRY TURNER } *Auditors.*
GEORGE DEAL

January 25, 1889.

GENERAL REVENUE ACCOUNT, 31st DECEMBER, 1888.

Dr.	£	s.	d.	Cr.	£	s.	d.
To BALANCE carried forward	2,103	5	3	By BALANCE OF REVENUE ACCOUNT brought forward 1st January, 1888	1,194	8	5
				" ANNUAL REVENUE ACCOUNT—			
				Balance for the year 1888...	908	16	10
	£2,103	5	3		£2,103	5	3

We have examined the above Accounts with the Books and Vouchers, and we find the same correct.

W. RICHARDS
HARRY TURNER } *Auditors.*
GEORGE DEAL

January 25, 1889.

LIST OF DONATIONS

Received up to January 9, 1889.

	£	s.	d.
Backhouse & Son, Jas.	10	0	0
Bartlett, J. E.	10	10	0
Best, Hon. Henry M.	5	0	0
Blake & Mackenzie, Messrs.	3	3	0
Brickwell, Captain	2	2	0
Browne, Mrs. (Co. Mayo)	2	2	0
Bunyard, George	5	5	0
Caustin, Albert J.	5	0	0
Cheal & Sons, Messrs. J.	5	5	0
Clarke, Stephenson	10	0	0
Colebrook, John	5	5	0
Cotton, Right Hon. Sir Henry	2	2	0
Courtauld, S.	50	0	0
Daniel, Miss E.	5	0	0
Dawnay, Hon. Payan	5	0	0
Dyer, W. T. Thiselton, C.M.G., F.R.S.	5	5	0
Easten, Arthur H.	1	1	0
Foster, Prof. M., F.R.S.	5	0	0
Gledstanes, Francis G.	1	1	0
Gordon, John	2	2	0
Grimshaw, J. S.	3	3	0
Harrison, Captain J. N.	2	2	0
Hayes, John	1	1	0
Haywood, T. B.	10	10	0
Hogg, Robert, LL.D., F.L.S.	25	0	0
Howard de Walden, Dowager Lady	10	10	0
Lawrence, Sir Trevor, Bart., M.P.	200	0	0
Lee, Mrs. S. A.	50	0	0
Carried forward	442	9	0
Brought forward	442	9	0
Lee, John	10	10	0
Loder, Sir E. G., Bart.	100	0	0
Low & Co., Hugh	25	0	0
Masters, Maxwell T., M.D., F.R.S.	2	2	0
Mawley, Edward	1	1	0
Ogle, Bertram S.	2	2	0
Onley, O. Savill	1	1	0
Payne, William	10	0	0
Pearson, H. J.	20	0	0
Peek, Sir H. W., Bart.	50	0	0
Phillimore, Charles B.	10	0	0
Pollett, H. M.	10	10	0
Protheroe and Morris, Messrs.	26	5	0
Roberts, John	1	1	0
Rothschild, Baron Ferdinand de	50	0	0
Schröder, Baron Henry	200	0	0
Silverlock, Charles	2	2	0
Stevens, George	1	1	0
Stuart, Charles Esme	5	5	0
Stuart, Col. Wm.	2	2	0
Sutton, W. L.	2	2	0
Swinburne, Miss	15	0	0
Threlfall, Will.	10	0	0
Vaughan, Henry	10	0	0
Veitch, Harry J., F.L.S.	50	0	0
Wilks, Rev. Wm.	10	10	0
Wilson, Geo. F., F.R.S.	50	0	0
Worsley, Philip J.	2	2	0
	£1,122	5	0

Books received during 1888.

"Acta Horti Petropolitani," Tom. x., fasc. i. "Agri-Horticultural Society of Madras, Proceedings," Vol. IV. "Annuario della R. Scuola Superiore d'Agric. in Portici," Vol. V., Parts 3 and 4. "Botanic Society, Edinburgh, Transactions and Proceedings," Vol. XVII., Part 1. "Flora Batava," Nos. 279 to 282, received through the Netherlands Legation. "Geological Society, Quarterly Journal," Vol. XLIV., Nos. 173-4-5-6. List of Fellows, 1888. "Hamburger Garten- und Blumenzeitung," monthly parts. "Kew Bulletin," 1887. "Linnean Society, Journal," Vol. XXIII., Nos. 153 to 155; Vol. XXIV., Nos. 162 to 164. List of Fellows, 1888. "Manchester Literary and Philosophical Society, Memoirs and Proceedings," Vols. XXV. and XXVI.; Vol. I., 4th series. "Mueller's Iconography of Australian Acacia," Decades 5 to 8 and 12 "Muséum d'Histoire Naturelle, Paris, Nouvelles Archives," Tomes IX. and X. "Nitrogenous Manure," Prof. Wagner. "Report on Botanic Garden, Adelaide," 1887. "Royal Agricultural Society's Journal," Vol. XXIV., Part 2, No. 48. "Royal Society, Proceedings," Vol. XLIII., Nos. 260 to 271. "Smithsonian Institution, Report," 1885, Part 2. "Smithsonian Institution, Miscellaneous Collections," Vols. XXXI., XXXII., XXXIII.

"American Philosophical Society, Proceedings," Vol. XXIV., Nos. 126–7. "Transactions," Vol. XVI., Part 2. "American Pomological Society, Proceedings," 1887. "Boston Society of Natural History," Vol. IV., Nos. 2, 4, and 6. "Cooper Union, New York, Annual Report." "Maine State Pomological Society, Transactions," 1885–6. "Massachusetts Horticultural Society, Transactions," 1887, Parts 1 and 2. "Memoir of Prof. Asa Gray." "Royal Society of Canada, Transactions," Vol. V., 1887. "Sociedade Broteriana, Boletim," Vol. V., fasc. 3; Vol. VI., fasc. 1 and 2. "Société centrale des Alpes-Maritimes, Bulletin," monthly parts. "Société d'Horticulture de Genève, Bulletin." "Société d'Horticulture de l'Allier, Annales," Tome VIII., Nos. 6 and 8. "Société d'Horticulture de la Gironde, Nouvelles Annales," No. 41. "Société Nantaise d'Horticulture, Annales," 1888, Part 1. "Société Nationale d'Horticulture de France, Journal," monthly parts. List of Fellows, 1888. "Tuberous Begonia, its History and Cultivation." "Wiener Illustrirter Gartenzeitung," monthly parts. "Zoological Society, Scientific Meetings," 1887. "Annual Report," 1887. "Proceedings," Parts 1, 2, and 3, 1888. "Quarterly Journal," Vol. XLIV., No. 175.

Plants, Seeds, &c. *presented to the Gardens*, 1888.

Australian Seeds—Botanic Gardens, Adelaide. 11 Anthurium Andreanum, 3 A. Scherzerianum—Sir Trevor Lawrence, Bart., M.P. Bulbs, various—Sir Charles W. Strickland, Bart. Begonias—Speciality and Novelty Company. Currant, "Fay's prolific"—Messrs. J. Cheal & Sons. Chrysanthemums—Messrs. H. Cannell & Sons, T. B. Haywood, Esq., Messrs. J. Laing & Sons, Mr. G. Stevens, Mr. C. Turner, Messrs. J. Veitch & Sons. Exacum affine—Col. R. Trevor Clarke. Fuchsias—Messrs. J. Cocker & Sons. Fuchsias, sp.—J. R. Haig, Esq. Flower Pots—Mr. John Matthews. Ferns—Messrs. J. Veitch & Sons. Grape Vines, Hungarian—Herr Horvath. Grape Vines, Grizzly Frontignan—W. Roupell, Esq. Irises—Professor Michael Foster, Sec. R.S. Oxalis, 6 varieties—Colonel Beddome. Phœnix paludosa, seed—Botanic Gardens, Calcutta. Potatoes, seedling—Messrs. J. Cocker & Sons, Mr. J. Lye, Mr. C. Ross. Potatoes, Burmese—J. Wallace, Esq. Pæonies, Herbaceous, 25 varieties—Mr. T. S. Ware. Pæonies, Herbaceous, 26 varieties—Messrs. Paul & Son. Strawberries—Mr. John Fraser. Strawberries, "Jewel"—C. L. Herford, Esq. Strawberries—Messrs. Lovell & Sons. Seeds, Flower and Vegetable—Messrs. Rutley & Silverlock, Speciality and Novelty Company, Messrs. Vilmorin, Andrieux, et Cie., Mr. R. Dean. Seeds, Vegetable—Messrs. Barr & Son, Messrs C. Sharpe & Co., Messrs. Burpee & Co., Mr. H. Deverill, Mr. H. Eckford, Messrs. J. Thorburn & Co., Messrs. Horsford & Pringle, Messrs. J. Veitch & Sons, Messrs. Oakshott & Millard. Seeds, Flower—Herr Ernst Benary; Botanic Gardens, Queensland. Seeds of hardy plants—G. F. Wilson, Esq., F.R.S. Seeds from Sikkim, 16 varieties—Botanic Gardens, Cambridge.

FLORAL COMMITTEE.

T. B. HAYWOOD, Esq., in the Chair, and twenty-one members present.

Awards recommended.

Silver Banksian Medal.

To Messrs. Barr & Son, King Street, Covent Garden, for a large and attractive display of a large number of different varieties of Daffodils in pots, with cut flowers of Anemone fulgens, Iris reticulata and var. Krelagei, Snowdrops, &c. The Daffodils had evidently been brought into blossom in some heat under glass.

To Mr. John May, Twickenham, for a group of well-flowered Persian Cyclamen. These displayed a great variety of colours, which were bright and effective and were extremely well grown.

To the St. George's Nursery Company, Hanwell, for a similar group of Cyclamen.

Bronze Banksian Medal.

To Messrs. Paul & Son, Cheshunt, for an interesting collection of Hardy Herbaceous and Alpine Plants in pots. Crocus Imperati was charming with its pale buff colour on the outside and lilac purple inside. Crocus biflorus (var. argenteus), very pale lavender with purple markings outside, appeared very free blooming and pretty. Iris reticulata was also very attractive, together with an early large flowering variety of Saxifraga Burseriana, called præcox. These with a few hardy Cyclamen and a number of varieties of Lenten Roses (hybrids from Helleborus orientalis), were of great interest to lovers of hardy spring flowers. The collection had all been grown with only a cold-frame protection.

Award of Merit.

Odontoglossum Pescatorei var. (11 for, 2 against) from J. F. Jackson, Esq., Bexley (gardener, Mr. Dowsett). Flowers, white, with a few deep rich crimson brown spots.

Commendation.

Strain of Chinese Primulas—(10 for, 1 against)—from Mr. Owen, of Maidenhead. Cut blooms only were shown, but the colours were very varied and bright, the double forms being strikingly pretty, and evidently coming of an excellent strain.

Cultural Commendation.

To Messrs J. Veitch and Sons, Chelsea, for a choice collection of cut blooms of hybrid greenhouse Rhododendrons of the Javanico-jasmini-florum section. The display of waxy blooms of all colours, from pure white, through yellow and pink, up to almost deep scarlet, was most delightful, and these Rhododendrons, blooming, as so many of them do at this time of year, and holding their blossoms so long, should prove grand acquisitions. The Committee requested to see plants of varieties Acis, Hermosa, and Dido.

Other Exhibits.

A hybrid Cypripedium, C. Lathamianum, came from Mr. Latham, Curator of the Botanic Gardens, Birmingham. It is a cross between Spicerianum and villosum. Habit and growth of plant intermediate between the two parents with the markings of villosum at base of leaves. Flowers the size of villosum. Upper sepal larger than villosum, white with a dark purple mid-line, green at base petals, nearly colour of villosum with dark mid-line.

A more striking hybrid Cypripedium, named "T. B. Haywood," came from Messrs. Veitch. It is a cross between superbiens and Drurii. Leaves like those of superbiens, but less marked. Flowers size and form of superbiens. Upper sepal with broad purple mid-lines, petals broader than in superbiens, with deep purple mid-line, and generally spotted, lip very light purple; general ground colour of flower, rosy pink.

Some fine flowers of Cypripedium insigne were sent by Mr. Batchelor, of Catton Park Gardens.

Messrs. James & Son, of Farnham Royal, sent cut blooms of Chinese Primulas, showing great variety of colour, and from a very fine strain.

One of the most interesting exhibits for hardy plant growers was a new blue Primrose, shown by Mr. R. Dean, of Ealing, called "True Blue." The colour of the flowers, if not what everyone would call *true* blue, was of a better and more intense shade of blue than any hitherto seen amongst hardy primroses, and the plant seemed to be of robust constitution, and will probably prove a great acquisition.

From the Duke of Marlborough, Blenheim (gardener, Mr. Whillans), came a plant of Lælia elegans blenheimensis, a variety of the Turneri section, but with lighter coloured flowers than in several forms.

From W. H. Scott, Esq., Dumfries (gardener, Mr. Rowe), came Lælia anceps Scottiana, a deep crimson variety.

T. W. Yates, Esq., Erdington (gardener, Mr. Rawlings), sent cut flowers of a fine Cattleya, Trianæ Yatesi, which has a lip of an intense crimson colour.

G. C. Raphael, Esq., Englefield Green (gardener, Mr. Swan), sent a cut spike of Dendrobium undulatum, a curious Australian species, with brownish flowers, just touched with lilac; also cut flowers of Odontoglossum nebulosum pardinum.

Cut flowers of Narcissus, pseudo-Narcissus variety Troilus, came from the Rev. W. Wilks, Shirley, who considers it to be the earliest blooming English-grown Daffodil. The trumpet is short and wide, and of a deep golden colour, the perianth of a much paler shade. The habit of the plant is said to be very bold and erect. The flowers shown had been bloomed in a cold frame, and had been out for ten days.

From Sir G. Macleay, Pendell Court (gardener, Mr. Ross), came specimens of Acacia Oxycedrus (A. verticillata), with spikes of pale yellow flowers. This acacia is said to be almost hardy, and might possibly prove so in some sheltered corners of Devon and Cornwall. Mr. Ross also brought flowers of the bluish-mauve Thunbergia laurifolia.

Messrs. J. R. Pearson & Sons, of Chilwell, showed a number of pot plants of Yucca filamentosa, with beautifully variegated leaves, glaucous green with broad cream-coloured stripes. It was said to be hardy, and to have stood several winters unprotected unharmed.

FRUIT COMMITTEE.

R. D. BLACKMORE, Esq., in the Chair, and twenty-three members present.

Awards recommended.

Silver Banksian Medal.

To Messrs. G. Bunyard & Co., of Maidstone, for 100 dishes of Apples.

To Messrs. J. Cheal & Sons, Crawley, for 80 dishes of Apples and Pears.

To A. H. Smee, Esq., Wallington (gardener, Mr. Cummins), for 50 dishes of Apples and Pears.

Award of Merit.

Strain of Variegated Kale (unanimous) from Messrs. Veitch & Sons, Chelsea. The specimens were cut, and many of them of remarkably bright colours and very finely curled.

Cultural Commendation.

To Messrs. Rivers & Son, of Sawbridgeworth, for a most interesting collection of fine, well-grown Oranges, Lemons, Shaddocks and Citrons. Of the oranges there were several varieties shown, viz. Maltese, Blood, Oval, St. Michael's, Billincourt, Sustain, Seville, Egg, and Dom Louis. One pot plant of Lemon "Bijou" laden with small pale yellow fruit was a most charming object. The collection of oranges and lemons at Sawbridgeworth is probably unique, few people taking such an interest in them as Mr. Rivers. Some year or two since the American Government sent over to Mr. Rivers for cuttings of all the best sorts for experimental planting in Florida and California.

To Lord Leconfield, Petworth Park (gardener, Mr. Breese), for large and remarkably fine specimens of Glou Morceau Pears.

Other Exhibits.

A very interesting collection of sixty dishes of Apples was shown by Messrs. Rivers; and thirty dishes by W. Roupell, Esq., who also showed some very good and well-kept examples of Muscat of Alexandria Grapes.

Mr. H. J. Clayton, Grimston Park Gardens, sent a Cucumber, a selection from "Telegraph" known as "Yorkshire Telegraph." Fruit of medium size, and smooth. Two new Apples were shown; one named "Carlton Seedling" from Mr. Divers, Ketton Hall Gardens, was not considered sufficiently distinct from others in cultivation; the other, called "Bietzheimer," from Messrs. Cranston, of Hereford. The fruit was large, handsome, and highly coloured, and the Committee asked to see it again, and to receive particulars as to its habit, culture, and origin.

Mr. Howard, of Bridge, Canterbury, exhibited some large, well-grown Onions, named "Canterbury Prize," which was said to have been selected about 1850, and sent out as "The Wroxton." It was requested to be sent to the Gardens for trial beside other sorts.

The general result of the meeting was to show Fellows (*i*) what an abundant supply of magnificent Apples may be had at this season, by a judicious selection of sorts to be planted and a little care taken in storing the fruit; (*ii*) what a number of Daffodils lend themselves kindly to slight forcing, and what valuable additions they may be to conservatories at this time of year; (*iii*) that oranges may be grown in this country of excellent quality, whilst at the same time the plants are of great decorative value; (*iv*) that a great future probably lies before the hybrid Java Rhodondendrons; and last, but not least, (*v*) what a large number of charmingly beautiful and interesting flowers anyone with only a cold frame at command may at this season enjoy, if they will only turn their attention to the pot culture of hardy spring bulbs and plants.

SCIENTIFIC COMMITTEE.

Dr. MAXWELL T. MASTERS in the Chair, and six members present.

Skimmia species.—Dr. Masters exhibited varieties of the well-known forms of Skimmia japonica, and observed that they were always diclinous, such as fragrans and oblata. But another specimen which he showed was invariably hermaphrodite, apparently self-fertile, and bore plenty of berries. The seed differed from the preceding in certain particulars, the foliage was darker in hue, the blade being narrower and more pointed. It has been supposed to be the original form introduced from Japan, but it does not agree with the typical S. japonica. It did not appear to be known as a distinct species, but Dr. Masters proposed making a further investigation into the matter. It was incidentally remarked that in the portrait of Dr. Lindley in the library he is represented as holding a branch bearing berries, which has always been presumed to be Skimmia. A closer inspection, however, proved it to be a Rose with heps.

Galanthus Elwesi, Diseased Bulbs of.—Mr. Barr forwarded some bulbs which he had received from Devonshire, apparently in a decaying and dying condition. They were forwarded to Professor Marshall Ward for examination and report.

Artificial Manure.—A specimen was sent by Mr. G. Revens, Euston, Thetford. It was forwarded to the Trials Committee at Chiswick.

Hoar Frost Damaging Trees.—An interesting communication was received from Mr. Plowright, as well as photographs and broken boughs, showing the damage caused about Lynn. Questions were raised as to the ice on the boughs having been wholly rime, and further details were requested on the subject.

Books received *to February* 12.

"Australian Irrigation Colonies," illustrated. "Flora Batava," Nos. 283, 284. "Flora of British India," Part 15. "Garten Flora," 1888. "Geological Society, Quarterly Journal," Vol. XLV., Part 1, No. 177. "Hamburger Garten- und Blumenzeitung," December, 1888. "Kew Bulletin," 1888. "Linnean Society Journal," Vol. XXIII., Nos. 156, 157; Vol. XXV., Nos. 165–169. "Mueller's Iconography of Acacia," Decade B. "Royal Society, Proceedings," Vol. XLV., Nos. 273–275. "Société centrale des Alpes-Maritimes, Bulletin-Journal," December, 1888, January, 1889. "Société d'Hort. de Genève, Bulletin," February, 1889. "Société Nantaise d'Hort., Annales," Part 3, 1888. "Société Nationale d'Hort. de France, Journal," November and December, 1888. "Veitch's Manual of Orchidaceous Plants," Part 4. "Wiener Illustrirter Gartenzeitung," January and February, 1889.

Plants, Seeds, &c. presented to the Gardens, *to February* 12.

Twenty-four varieties: Herbaceous Pæonies—Messrs. Paul & Son, The Old Nurseries, Cheshunt. Forty-two varieties: Herbaceous Pæonies—M. Louis Van Houtte, Ghent. Eighteen varieties: Herbaceous Pæonies—Mr. T. S. Ware, Hale Farm Nursery, Tottenham. Seeds, various—Messrs. Dobbie & Co., Rothesay, N.B. Varieties: Herbaceous Pæonies—Messrs. Dicksons, Limited, Chester. Thirty-five plum trees—Messrs. Rivers, Sawbridgeworth. · Eight grape vines—Messrs. Rivers. Grape "Tenturier"—A. W. Tait, Esq., Oporto. Grape "Primavis Frontignan"—W. Roupell, Esq., Roupell Park, S.W.

AWARDS MADE

On the recommendation of the Fruit and Vegetable Committee.

FROM JUNE 14, 1887, TO DECEMBER 31, 1888.

First Class Certificates.

Apple, Bismarck (Veitch), Oct. 11, 1887.
„ Cooling's Beauty of Bath (Cooling), Aug. 9, 1887.
„ Gascoigne's Seedling (Boscawen), Oct. 11, 1887.
„ Newton Wonder (Pearson), Dec. 13, 1887.
Asparagus, Chicory (Willard), Dec. 11, 1888.
Broccoli, Lullington Variegated (Fenton), Apr. 24, 1888.
Cherry, Emperor Francis Joseph (Rivers), Aug. 9, 1887.
Cucumber, Lockie's Perfection (Lockie), June 12, 1888.
Medlar, The Royal (Rivers), Jan. 10, 1888.
Melon, Glenhurst Perfection (Waite), Sep. 25, 1888.
Onion, Southport Red Globe (Veitch), Nov. 13, 1888.
Pear, Mdlle. Solange (Veitch), Aug. 9, 1887.
Raspberry, Superlative (Veitch), July 26, 1888.
Stachys tuberifera (Carter & Co.), Nov. 13, 1888.

AWARDS MADE

On the recommendation of the Floral Committee.

FROM JUNE 14, 1887, TO DECEMBER 31, 1888.

F.C., First-class Certificate; B.C., Botanical Certificate; C., Commended; H.C., Highly Commended.

Abutilon vitifolium—as a half-hardy Shrub—(Kelway), May 22, 1888, F.C.
Adiantum Regina (May), Dec. 13, 1887. F.C
„ Versaillense (Williams), Aug. 28, 1888. F.C.
„ Waltoni diffusum (Walton), Oct. 9, 1888. F.C.
Aërides expansum Leoniæ (Tautz), June 28, 1887. F.C.
„ Fieldingi alba (Schroder), May 22, 1888. F.C.
Allium pedemontanum (Ware), July 10, 1888. F.C.
Alsine verna plenissima (Frœbel), May 22, 1888. F.C.
Amaryllis Conqueror (Veitch), April 10, 1888. F.C.
„ Emperor Frederick (Williams), Apr. 10, 1888. F.C.
„ Finette (Veitch), April 10, 1888. F.C.
„ Miss Ainslie (Kelway), Apr. 24, 1888. F.C.
„ „ Roberts (Veitch), Apr. 10, 1888. F.C.
„ Rodney (Veitch), Apr. 10, 1888. F.C.
Anemone apennina alba (Ware), May 8, 1888. F.C.
Angræcum arcuatum (Buchan), Apr. 24, 1888. F.C.
„ Sanderianum (Sander), Jan. 10, 1888. F.C.
Anguloa intermedia (Veitch), May 22, 1888. F.C.
„ Ruckeri alba (Dorwan), July 24, 1888. F.C.
Anthurium De Smetianum (Linden), June 12, 1888. F.C.
Ardisia mamillata (Veitch), Feb. 14, 1888. F.C.
Arnebia echioides (Paul & Son), May 22, 1888. F.C.
Asplenium scandens (Veitch), Aug. 23, 1887. F.C.
Aster (Bouquet) Pyramidal Rose (Vilmorin, Andrieux & Co.), Aug. 23, 1887. C.
„ Townshendi (Ware), Sep. 25, 1888. F.C.

Auricula (Alpine) Harry Turner (Turner), May 8, 1888. F.C.
,, ,, Hetty Dean (Dean), May 8, 1888. F.C.
,, ,, Mrs. Harry Turner (Turner), May 8, 1888. F.C.
Azalea (indica), Vervæniana (Turner), May 8, 1888. F.C.
Beet (ornamental) McGrigor's Favourite (Williams), Sep. 25, 1888. F.C.
Begonia (Double Tuberous) Adonis (Laing), July 12, 1887. F.C.
,, ,, ,, alba magna (Laing), July 12, 1887. F.C.
,, ,, ,, Camellia (Laing), June 12, 1888. F.C.
,, ,, ,, C. Showell (Cannell), Aug. 14, 1888. F.C.
,, ,, ,, Edelweiss (Cannell), July 26, 1887. F.C.
,, ,, ,, General Chichester (Cannell), Oct. 9, 1888. F.C.
,, ,, ,, H. Adcock (Laing), June 12, 1888. F.C.
,, ,, ,, Jubilee (Laing), July 12, 1887. F.C.
,, ,, ,, Jupiter (Laing), July 12, 1887. F.C.
,, ,, ,, Lustre (Laing), July 12, 1887. F.C.
,, ,, ,, Major Lendy (Cannell), July 26, 1887. F.C.
,, ,, ,, Mrs. Lascelles (Cannell), Aug. 28, 1888. F.C.
,, ,, ,, ,, L. Castle (Cannell), July 12, 1887. F.C.
,, ,, ,, ,, Lynch (Cannell), Aug. 28, 1888. F.C.
,, ,, ,, ,, Stark (Cannell), Oct. 1888. F.C. [F.C.
,, ,, ,, ,, W. B. Miller (Cannell), June 12, 1888.
,, ,, ,, Perfection (Laing), July 12, 1887. F.C.
,, ,, ,, Princess Maude (Laing), May 22, 1888. F.C.
,, ,, ,, Shirley Hibberd (Cannell), July 26, 1887. F.C.
,, ,, ,, Snowball (Laing), July 12, 1887. F.C.
,, (Single Tuberous) Baroness Rothschild (Laing), May 22, 1888. F.C.
,, ,, ,, Prince of Orange (Cannell), July 12, 1887. F.C.
,, ,, ,, The Lady (Cannell), Aug. 28, 1888. F.C.
,, (winter-flowering) Adonis (Veitch), Nov. 8, 1887. F.C.
Begonias—for strain—(Laing), June 26, 1888. F.C.
Berberis aristata integrifolia (Veitch), July 12, 1887. F.C.
Bignonia Tweediana (Ross), April 10, 1888. F.C.
Bouvardia President Cleveland (Veitch), Oct. 25, 1887. F.C.
Cæsalpinia japonica (Veitch), June 26, 1888. F.C.
Caladium Comte de Germiny (Laing), May 22, 1888. F.C.
Calanthe Halli (Hall), Nov. 8, 1887. F.C.
Calochortus venustus var. citrinus (Ware), Jan. 26, 1888.
Campanula isophylla alba (Ware), Aug. 28, 1888. F.C.
Canna Admiral Courbet (Cannell), Aug. 28, 1888. F.C.
,, Capricieuse (Cannell), Aug. 28, 1888. F.C.
,, Francisque Morel (Ware), Aug. 28, 1888. F.C.
,, Geoffro St. Hilaire (Veitch), Sept. 25, 1888. F.C.
,, Madame Just (Cannell), Aug. 28, 1888. F.C.
,, Paul Bert (Cannell), Sept. 25, 1888. F.C.
,, Ulrich Brunner (Veitch), Oct. 9, 1888. F.C.
Carnation (border) Alice Ayres (Ware), July 26, 1887. F.C.
,, ,, Elaine (Douglas), July 24, 1888. F.C.
,, ,, Gravetye Gem (Dickson), July 26, 1887. F.C.
,, (tree) Amber (Turner), July 12, 1887. F.C.
,, ,, Mrs. W. H. Grenfell (Turner), April 10, 1888. F.C.
,, ,, Phyllis (Turner), Feb. 14, 1888. F.C. [F.C.
,, ,, Pink Souvenir de la Malmaison (Turner), July 12, 1887.
,, ,, Purple King (Turner), April 10, 1888. F.C.
,, ,, Madame Carle (May), Sept. 11, 1888. F.C.
,, ,, Germania (Hooper & Co.), July 10, 1888. F.C.
,, ,, R. H. Elliott (Laing & Mather), Aug. 14, 1888. F.C.
Carpenteria californica (Jekyll), July 10, 1888. F.C.
Catasetum Bungerothi (Schroder), Aug. 9, 1887. F.C.

Cattleya Harrisi (Schroder), Oct. 23, 1888. F.C.
,, labiata leucophæ (Tautz), June 28, 1887. F.C.
,, Lamberhurst Hybrid (Schroder), Oct. 23, 1888. F.C.
,, Wagneri superba (Schroder), June 12, 1888. F.C.
Celosias (Ford), Sept. 25, 1888. H.C.
Chrysanthemum (Japanese) Avalanche (Stevens), Nov. 13, 1888. F.C.
,, ,, Edouard Audiguier (Veitch), Nov. 8, 1887. F.C.
,, ,, Edwin Molyneux (Stevens), Oct. 23, 1888. F.C.
,, ,, Elsie (Stevens), Oct. 9, 1888. F.C.
,, ,, L'Africaine (Holmes), Oct. 11, 1887. F.C.
,, ,, Lincoln's Inn (Owen; Holmes), Oct. 23, 1888. F.C.
,, ,, Marie Ouvray (Holmes), Nov. 1, 1887. F.C.
,, ,, Mr. Garner (Stevens), Nov. 13, 1888. F.C.
,, ,, Mr. R. Brocklebank (Winkworth), Nov. 8, 1887. F.C.
,, ,, Mrs. H. Hawkins (Hawkins & Bennett), Sept. 11, 1888. F.C.
,, ,, Mrs. J. Wright (Stevens), Oct. 25, 1887. F.C.
,, ,, Sunflower (Holmes), Oct. 23, 1888. F.C.
,, ,, W. Cobbett (Stevens), Oct. 11, 1887.
,, (early-flowering, decorative) Capucine (Pearson), Oct. 23, 1888. C.
,, Leucanthemum semi-duplex (Saltmarsh), June 28, 1887. F.C.
Cineraria Marie (James), April 10, 1888. F.C.
,, (double-flowered), Advance (Cannell), April 24, 1888. F.C.
,, ,, Aspasia (Cannell), April 24, 1888. F.C.
,, ,, Beatrice Kelway (Kelway), April 24, 1888. F.C.
,, ,, Faust (Cannell), April 24, 1888. F.C.
,, ,, Queen Victoria (Kelway), April 24, 1888. F.C.
Cirrhopetalum ornatissimum (Tautz), Oct. 25, 1887. B.C.
Cœlogyne Sanderiana (Rothschild), July 10, 1888. F.C.
Cordyline australis variegata (Williams), April 10, 1888. F.C.
Croton Aigburth Gem (Ker), Aug. 14, 1888.
Cyclamens—for strain—James, April 10, 1888. H.C.
Cymbidium Dayanum (Schroder), June 14, 1887. F.C.
Cypripedium bellatulum (Low), May 22, 1888. F.C.
,, ,, roseum (Low), June 12, 1888. F.C.
,, Harrisianum superbum (Tautz), Oct. 11, 1887. F.C.
,, orphanum (Tautz), Aug. 9, 1887. F.C.
,, præstans (Linden), Aug. 23, 1887. F.C.
,, superciliare (Lawrence), June 28, 1887. F.C.
,, Tautzianum (Tautz), Jan. 10, 1887. F.C.
Dahlia (decorative) Henry Patrick (Ware), Sept. 27, 1887. F.C.
,, ,, Honoria (Keynes), Sept. 25, 1888. F.C.
,, ,, Panthea (Keynes), Sept. 25, 1888. F.C.
,, ,, Zulu (Ware), Sept. 13, 1887. F.C.
,, (fancy) Frank Pearce (Rawlings), Sept. 27, 1887. F.C.
,, ,, John Cooper (Humphries), Sept. 25, 1888. F.C.
,, ,, Plutarch (Turner), Sept. 27, 1887. F.C.
,, (Pompon or Bouquet), Admiration (Turner), Sept. 25, 1888. F.C.
,, ,, ,, Eurydice (Keynes), Sept. 25, 1888. F.C.
,, ,, ,, Juliette (Turner), Sept. 25, 1888. F.C.
,, ,, ,, Little Darkie (Keynes) Sept. 25, 1888. F.C.
,, ,, ,, Little Ethel (Keynes), Sept. 15, 1888. F.C.
,, ,, ,, Lothair (Turner), Sept. 25, 1888. F.C.
,, ,, ,, Vivid (Turner), Sept. 25, 1888. F.C.
,, ,, ,, Whisper (Keynes), Sept. 25, 1888. F.C.
,, ,, ,, William Carlisle (Turner), Sept. 13, 1887. F.C.

Dahlia (Show) Agnes (Turner), Sept. 25, 1888. F.C.
,, ,, Glowworm (Turner), Sept. 13, 1887. F.C.
,, ,, Hugo (Turner), Sept. 25, 1888. F.C.
,, ,, Lustrous (Turner), Sept. 13, 1887. F.C.
,, ,, Maud Fellowes (Turner), Sept. 25, 1888. F.C.
,, ,, M. Campbell (Keynes), Sept. 25, 1888. F.C.
,, ,, Olivia (Turner), Sept. 13, 1887. F.C.
,, ,, Purple Prince (Turner), Sept. 13, 1887. F.C.
,, (Single) Canterbury Tales (Paul & Son), Sept. 27, 1887. F.C.
,, ,, Lady Montefiore (Cheal), Sept. 25, 1888. F.C.
,, ,, Maud Millett (Girdlestone), Sept. 13, 1887. F.C.
,, ,, Mikado (Girdlestone), Sept. 11, 1888. F.C.
,, ,, Miss Gordon (Ware), Aug. 23, 1887. F.C.
,, ,, Miss H. Henshaw (Ware), Sept. 13, 1887. F.C.
,, ,, Mrs. Harry Whitfield (Paul & Son), Sept. 27, 1887. F.C.
Daphniphyllum glaucescens (Veitch), June 26, 1888. F.C.
Delphinium Bassanio (Kelway), June 26, 1888. F.C.
,, Figaro (Kelway), June 26, 1888. F.C.
,, Horus (Kelway), Aug. 28, 1888. F.C.
Dendrobium chrysodiscus (Lawrence), Feb. 14, 1888. F.C.
,, crassinode superbum (Lawrence), March 27, 1888. F.C.
,, macrophyllum Bleichroderianum (Linden), June 12, 1888. B.C.
,, nobile Cooksoni (Lawrence; Pollett), Feb. 14, 1888. F.C.
,, splendidissimum grandiflorum (Schroder), March 27, 1888.
,, stratiotes (Lawrence), Sept. 13, 1887. F.C.
Dianthus Splendour (Dean), Sept. 11, 1888. F.C.
Disa cornuta (Smee), Aug. 23, 1887. B.C.
,, graminifolia (Tautz), Sept. 11, 1888. B.C.
,, lacera (Smee), Aug. 28, 1888. B.C.
,, racemosa (Royal Gardens, Kew), May 22, 1888. F.C.
Epidendrum atro-purpureum var. Randi (Lawrence; Tautz), June 26, 1888. [F.C.
,, James O'Brien (Veitch), May 22, 1888. F.C.
,, Parkinsonianum (Pollett), July 12, 1887. F.C.
Eremurus himalaicus (Loder), June 14, 1887. F.C.
,, Olgæ (Ware), Sept. 11, 1888. F.C.
Erythronium grandiflorum albiflorum (Ware), April 24, 1888. F.C.
Escallonia Philippiana (Veitch), July 10, 1888. F.C.
Eulalia japonica gracillima, Jan. 26, 1888. F.C.
Gaillardia Admiration (Ware), Aug. 23, 1887. F.C.
,, splendidissima plenissima (Kelway), Aug. 28, 1888. F.C.
,, Vivian Grey (Kelway), June 28, 1887. F.C.
Gladiolus Accia (Kelway), Aug. 28, 1888. F.C.
,, Besler (Kelway), Sept. 11, 1888. F.C.
,, Bonaria (Kelway), Aug. 23, 1887. F.C.
,, Bullion (Kelway), Aug. 28, 1888. F.C.
,, Castro (Kelway), Sept. 11, 1888. F.C.
,, Cebes (Kelway), Aug. 28, 1888. F.C.
,, Edgar Wild (Kelway), Aug. 23, 1887. F.C.
,, Hallé (Kelway), Aug. 23, 1887. F.C.
,, John Dominy (Kelway), Aug. 23, 1887. F.C.
,, Magas (Kelway), Aug. 28, 1888. F.C.
,, Mago (Kelway), Aug. 28, 1888. F.C.
,, Mary Anderson (Kelway), Aug. 23, 1887. F.C.
,, Nicon (Kelway), Aug. 28, 1888. F.C.
,, Princess Royal (Kelway), Aug. 9, 1887. F.C.
,, W. Roupell (Kelway), Aug. 9, 1887. F.C.
Gymnogramme Pearcei robusta (Veitch), July 10, 1888. F.C.
Habenaria militaris (Lawrence), Sept. 13, 1887. F.C.

Haberlea rhodopensis (Royal Gardens, Kew), May 22, 1888. F.C.
Harpalium rigidum semi-plenum (Ware), Sept. 25, 1888. F.C.
Hemerocallis Middendorfiana (Ware), June 14, 1887. F.C.
Heuchera sanguinea (Ware), June 28, 1887. F.C.
Hollyhock Scarlet Gem (Webb & Brand), Aug. 9, 1887. F.C.
,, Wm. Archer (Webb & Brand), Aug. 9, 1887. F.C.
Iris histrio (Paul & Son), Feb. 14, 1888. F.C.
,, stylosa alba (Ware), April 10, 1888. F.C.
,, (Japanese), Acquisition (Veitch), July 12, 1887. F.C.
,, ,, Criterion (Veitch), July 12, 1887. F.C.
,, ,, Eclipse (Gordon), July 12, 1887. F.C.
,, ,, Enterprise (Gordon), July 24, 1888. F.C.
,, ,, Exquisite (Gordon), July 12, 1887. F.C.
,, ,, Kaiser Wilhelm (Gordon), July 24, 1888. F.C.
,, , Unique (Veitch), July 12, 1887. F.C.
Iresine Colemani (Wildsmith), Sept. 13, 1887. F.C.
Ixiolirion tataricum (Ware), June 14, 1887. F.C.
Lælia Amesiana (Schroder), July 24, 1888. F.C.
,, anceps Schroderæ (Schroder), Jan. 10, 1888. F.C.
,, Batemanniana (Schroder), July 12, 1887. F.C.
,, monophylla (Williams), Sept. 11, 1888. B.C.
,, porphyrites (Schroder), Oct. 9, 1888. F.C.
,, Victoria (Schroder), Nov. 13, 1888. F.C.
Lastrea montana ramo-coronans (Birkenhead), July 24, 1888. F.C.
Lilac (Syringa), Marie Lemoine (Paul & Son), March 27, 1888. F.C.
Lilium nepalense (Low), Sept. 11, 1888. F.C.
,, Wallichianum (Ware), Sept. 25, 1888. F.C.
Lycaste Skinneri Imperator (Sander), Feb. 14, 1888. F.C.
Marigold Prince of Orange (Dobbie), Aug. 9, 1887. F.C.
,, Lemon Queen (Dobbie), Aug. 9, 1887. F.C.
Masdevallia Culex, Sept. 13, 1887. B.C.
,, Harryana luteo-oculata, Tautz, June 14, 1887. F.C.
Narcissus bicolor, Mrs. J. B. M. Camm (Barr), May 8, 1888. F.C.
,, incomparabilis Gloria Mundi (Barr), May 8, 1888. F.C.
Nepenthes Curtisi (Veitch), Sept. 13, 1887. F.C.
,, Dicksoniana (Veitch), Oct. 9, 1888. F.C.
Nerine excellens (Ware), Sept. 25, 1888. F.C.
,, Manselli (Mansell), Dec. 13, 1887. F.C.
Nothochlæna Muelleri (Birkenhead) July 24, 1888. F.C.
Odontoglossum Alexandræ var., J. Charlesworth (Charlesworth), Apr. 24, 1888. F.C.
,, crispum pardalinum (Lawrence), Feb. 14, 1888. F.C.
,, Halli magnificum (Pollett), June 12, 1888. F.C.
,, Harryanum (Sander), July 26, 1887. F.C.
,, Humeanum (Pollett), Apr. 24, 1888. F.C.
,, Karwinski (Vanner), Aug. 28, 1888. F.C.
,, nebulosum excellens (Sander), June 12, 1888. F.C.
,, Pescatorei Poës var. (Poë), May 8, 1888. F.C.
,, ,, var. (Jackson), Feb. 12, 1889. A.M.
,, Rossi, F. L. Ames (Williams), Apr. 24, 1888. F.C.
,, Schroderianum (Schroder), Sept. 13, 1887. F.C.
,, vexillarium radiatum (Schroder), June 14, 1887. F.C.
,, Vuylstekianum maculatum (Lawrence), July 12, 1887. F.C.
Oncidium Mantini (Veitch: Crook), Oct. 23, 1888. F.C.
,, ornithorhynchum album (Williams), Sept. 11, 1888. B.C.
Oplismenus albidus (Veitch), Sept. 13, 1887. F.C.
Oreocome Candollei (Noble), July 24, 1888. F.C.
Ostrowskya magnifica (Veitch), July 10, 1888. F.C.

Oxera pulchella (Ross), Jan. 10, 1888. F.C.

Pæony Agnes Mary Kelway (Kelway), June 26, 1888. F.C.

,, Comtesse d'Endort (Veitch), Apr. 24, 1888. F.C.

,, Cyclops (Kelway), June 26, 1888. F.C.

,, Glory of Somerset (Kelway), June 28, 1887. F.C.

,, Lady Carington (Kelway), June 26, 1888. F.C.

,, Maria Kelway (Kelway), June 26, 1888. F.C.

,, Prince Albert (Gordon), May 22, 1888. F.C.

Papaver orientale, Blush Queen (Ware), Aug. 14, 1888. F.C.

Pea (Sweet) Mauve Queen (Eckford), July 12, 1887. F.C.

,, Primrose (Eckford), July 12, 1887. F.C.

,, Splendour (Eckford), July 12, 1887. F.C.

Peas (Sweet) for strain (Eckford), July 10, 1888. H.C.

Pelargonium (Fancy) Ambassadress (Turner), June 26, 1888. F.C.

,, (Show) Duke of Clarence (Foster), June 14, 1887. F.C.

,, (Spotted) Spotted Beauty (Turner), June 26, 1888. F.C.

Phalænopsis F. L. Ames (Veitch), Jan. 10, 1888. F.C.

,, gloriosa (Low), June 12, 1888. F.C.

,, Harriettæ (Veitch), July 26, 1887. F.C.

,, John Seden (Schroder), March 27, 1888. F.C.

Phillyrea decora * (Paul & Son), May 8, 1888. F.C.

Polemonium confertum (Ware), May 8, 1888. F.C.

Polyanthus John Woodbridge (Dean), May 8, 1888. F.C.

Primula, Crimson Beauty (Crook), April 24, 1888. F.C.

,, sinensis, Braid's Seedling (Cannell), Feb. 14, 1888. F.C.

,, ,, Bridesmaid (Cannell), Dec. 13, 1887. F.C.

,, ,, Miss Eva Fish (Cannell), Jan. 10, 1888. F.C.

,, ,, Swanley Pink (Cannell), Dec. 13, 1888. F.C.

Prostanthera lasianthos (Ross), May 22, 1888. F.C.

Prunus domestica variegata (Paul & Son), July 10, 1888. F.C.

Pteris claphamensis (Soper), Dec. 13, 1887. F.C.

,, cretica nobilis (May), Feb. 14, 1888. F.C.

,, tremula elegans (May), July 10, 1888. F.C.

Pyrethrum roseum Aphrodite (Kelway), June 14, 1887. F.C.

,, ,, Beatrice (Kelway), June 12, 1888. F.C.

,, ,, Figaro (Kelway), June 14, 1887. F.C.

,, ,, Florentine (Kelway), June 14, 1887. F.C.

,, ,, Magician (Kelway), June 14, 1887. F.C.

,, ,, Margaret Moore (Kelway), June 14, 1887. F.C.

,, ,, Meteor (Kelway), June 12, 1888. F.C.

,, ,, Wega (Kelway), June 12, 1888. F.C.

Ramondia pyrenaica alba (Paul & Son), June 12, 1888. F.C.

Rhododendron (Greenhouse hybrid) Imogene (Veitch), Feb. 14, 1888. F.C.

,, ,, ,, Primrose (Veitch), Jan. 10, 1888. F.C.

,, ,, ,, Purity (Veitch), July 24, 1888. F.C.

,, ,, ,, Ruby (Veitch), Feb. 14, 1888. F.C.

,, ,, ,, Souvenir de J. H. Mangles (Veitch), July 10, 1888. F.C.

,, ,, ,, Thetis (Veitch), Sept. 13, 1887. F.C.

,, ,, ,, Yellow Perfection (Veitch), Oct. 23, 1888. F.C.

Romneya Coulteri (Ware), Sept. 11, 1888. F.C.

Rosa polyantha grandiflora (Paul & Son), April 10, 1888. F.C.

Rose (decorative) Cheshunt Scarlet (Paul & Son), July 24, 1888. F.C.

,, (H. P.) Duchess of Albany (W. Paul & Son), July 24, 1888. F.C.

,, (H. P.) Lady Alice (Paul & Son), June 28, 1887. F.C.

,, (Tea) Cleopatra (Bennett), June 28, 1887. F.C.

,, ,, May Rivers (Rivers), May 24, 1888. F.C.

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* Exhibited as P. decora Vilmoriniana.

Rose (Tea) Madame Hoste (W. Paul & Son), May 8, 1888. F.C.
,, ,, Sappho (W. Paul & Son), May 22, 1888. F.C.
,, Climbing Niphetos (Keynes, Williams & Co.), April 24, 1888. F.C.
,, Gloire des polyanthes (Paul & Son), Mar. 27, 1888. F.C.
,, Single White Perpetual (Paul & Son), Aug. 9, 1887. F.C.
,, Striped Brier (Dombrain), June 26, 1888. F.C.
Saccolabium cœleste (Williams), July 24, 1888. F.C.
,, Heathi (Schroder), Aug. 9, 1887. F.C.
Sarracenia Williamsi (Williams), June 12, 1888. F.C.
Saxifraga Frederici Augusti (Paul & Son), Mar. 13, 1887. F.C.
Schubertia grandiflora (Bartholomew), Sept. 13, 1887. F.C.
Scolopendrium cristulatum (Birkenhead), July 24, 1888. F.C. [F.C.
,, vulgare var. crispum fimbriatum (Stansfield), Aug. 23, 1887.
,, ,, ,, Vallaisi (Veitch), July 12, 1887. F.C.
Selaginella cuspidata crispa (Williams), April 10, 1888. F.C.
Skimmia Foremani (Foreman), Dec. 13, 1888. F.C.
Spathoglottis Kimballiana (Lawrence), Mar. 27, 1888. F.C.
Streptocarpus kewensis (Royal Gardens, Kew), July 26, 1887. F.C.
,, Watsoni (Royal Gardens, Kew), July 26, 1887. F.C.
Stuartia pseudo-camellia (Veitch), July 24, 1888. F.C.
Styrax Obassia (Veitch), June 12, 1888. F.C.
Syringa japonica (Veitch), Jan. 28, 1887. F.C.
Trichocentrum Ella (White), Aug. 28, 1888. B.C.
Tritonia aurea, Crimson Spotted (O'Brien), Sept. 11, 1888. F.C.
Utricularia longifolia* (Lawrence), Mar. 13, 1888. F.C.
Viola, Lucy Ashton (Dobbie), Aug. 9, 1887. F.C.
Violet, The Bride (Veitch), Mar. 13, 1888. F.C.

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* Exhibited as U. rhytrophylla.

EXTRACTS FROM THE PROCEEDINGS
OF THE
ROYAL HORTICULTURAL SOCIETY.

GENERAL MEETING.

MARCH 12, 1889.

W. T. THISELTON DYER, Esq., C.M.G., F.R.S., in the Chair.

ELECTIONS.

Fellows, 33.—W. Ainslie, H. P. Atkins, Mrs. S. Cecil Bignold, Albert Brassey, Hon. Mrs. Albert Brassey, Henry Butt, William Charles, Sidney R. Chesterton, Rev. A. E. Clementi-Smith, Rev. P. Clementi-Smith, Mrs. C. R. Cock, John Cockburn, Mrs. Collis, Henry Crocker, M.D., Norman Davis, Heer S. A. de Graaff, John Fraser, John Braithwaite Gill, Mrs. Robert Grant, Mrs. Homfray, Mrs. W. Hudson, George Paice, John Philpot, Henry D. Pochin, John W. Price, George C. Raphael, Jonathan Rashleigh, Thomas Sheldon, Alnod E. Studd, Alfred Vince, Miss Harriet Wilson, Mrs. Henry Woodrow, Major-General Young, R.E.

The following papers were read:—(1) "Notes on Saxifrages," by Mr. J. G. Baker, F.R.S., F.L.S. (2) "The Cultivation of Saxifrages," by Mr. George Paul, F.R.H.S. (3) "Cultural and Descriptive Notes on Saxifrages," by Mr. G. Reuthe.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and twenty-five members present.

Awards Recommended:—

Silver Banksian Medal.

To Messrs. W. Paul & Son, The Nurseries, Waltham Cross, for a dozen boxes of Camellia blooms, containing some of the best varieties in cultivation, especially noteworthy being the

American varieties C. H. Hovey and C. M. Hovey; also Elegans, fine carmine, Conspicua, scarlet, Augustine superba, rose-pink, Centifolia alba, pure white, Candidissima, one of the finest of the whites, Il Comandatore Betti, fine salmon, one of the best of the Italian Camellias, &c.

To Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a large and beautiful group of Daffodils in pots; also cut flowers, with Anemones, Cyclamen coum, &c. The Daffodils consisted chiefly of the well-known sorts, such as Horsfieldi, Maximus, Spurius, Ard Righ (or the Irish King), Leedsi, and Golden Spur—all in very good condition.

To Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, for a group of remarkably well-grown Nepenthes (Pitcher plants), chiefly hybrids, interesting and beautiful, the most noticeable being N. Chelsoni, Mastersiana, Dicksoniana, and Veitchi.

To Messrs. Paul & Son, the "Old" Nurseries, Cheshunt, for a large and most interesting group of hardy spring flowers, comprising about twelve varieties of the early-flowering Saxifrages in flower, and other typical varieties; also the beautiful Chionodoxa sardensis, Ranunculus anemonoides, the pretty little Androsace Laggeri, Galanthus plicatus, well-flowered plants of the Fairy and Polyantha Roses, some as standards, which were extremely pretty and much admired; and with them were the following new Roses: The Bride, The Puritan, Colonel Félix Bretton, and Lady Alice.

To T. B. Bryant, Esq., Juniper Hill, Dorking (gardener, Mr. C. Beckett), for an extremely fine specimen of Dendrobium nobile var. Wallichi. The plant was about four feet across, literally clothed with flowers, and in the most robust health.

Bronze Banksian Medal.

To Messrs. Barr & Son, King Street, Covent Garden, for a group of Daffodils (in pots), principally of the trumpet section, and pans of Crocuses, of such good sorts as biflorus, Weldeni alba, Imperati, aureus, Sieberi (lilac), Olivieri (orange), &c. The Committee expressed a desire to see C. Sieberi versicolor again.

To the St. George's Nursery Company, Hanwell, for a well-flowered group of Cyclamens.

First-class Certificate.

To Cypripedium Rothschildianum (unanimous), from Lord

Rothschild, Tring Park, Tring (gardener, Mr. E. Hill); a magnificent species, of the type represented by C. Stonei. The individual blooms are large, the labellum boat-shaped, and of a rich maroon colour, the dorsal and lower sepals broad and regularly marked with bands of maroon on a greenish-white ground.

To Cymbidium eburneo-Lowianum X (unanimous), from Messrs. J. Veitch & Sons; a handsome hybrid between the species the titles of which are incorporated in the name given. The flowers are a pale buff colour, the lip creamy-white, with a zone of purplish-crimson, and a white margin.

To Amaryllis John Ruskin (unanimous), from Messrs. J. Veitch & Sons; a grand variety, with large flowers of fine form; colour rich crimson.

To Iris Rosenbachiana (nine for, five against), from Mrs. Whitbourn, Great Gearies, Ilford (gardener, Mr. J. Douglas), and Messrs. Barr & Son; a dwarf-growing species, bearing comparatively large flowers of a pale blue colour, marked with violet and golden yellow.

To Primrose Blue Gem (twelve for, eleven against), from Mr. R. Dean, Ranelagh Road, Ealing; a variety of the acaulis type, with large flowers of a deep bluish shade, having an orange centre.

To Primula sinensis Imperial White (fifteen for, three against), from Mr. R. Owen, The Nursery, Maidenhead; a distinct variety, bearing large semi-double white flowers.

To Clivia Lady Wolverton (unanimous), from Lord Wolverton, Iwerne Minster, Blandford (gardener, Mr. P. Davidson); a very fine variety, with enormous trusses of large flowers, bright orange-red, with a yellowish centre.

Award of Merit.

To Primula petiolaris (thirteen for, six against), from Professor M. Foster, Shelford, Cambridge; a distinct alpine species of small growth, and bearing comparatively large flowers of a bright rosy-lilac hue.

To Amaryllis Acquisition (ten for, four against), from Messrs. J. Veitch & Sons. Flowers of good shape, bright scarlet, with a band of white along the centre of each segment.

To Cyclamen Prince of Wales strain (fifteen for, two against), from the St. George's Nursery Company. The flowers of large size, and the colour rich rosy-crimson.

Cultural Commendation.

To Odontoglossum luteopurpureum crispatum, from Messrs. Heath & Son, The Nurseries, Cheltenham; a finely bloomed plant, having three racemes with an aggregate of fifty flowers.

Other Exhibits.

Mr. B. S. Williams, The Nurseries, Upper Holloway, sent an interesting group of plants, comprising the white form of Lycaste Skinneri, Lælia albida bella, Cypripedium Measuresianum X and C. hirsutissimum, Odontoglossum baphicanthum (yellow spotted with chocolate), and Cœlogyne cristata alba; Azalea Princess of Wales, a double-flowered variety, with large full flowers of good substance, white shaded rose; also a pan of the free-flowering Primula floribunda.

Cut flowers were sent of a double-flowered variety of Sparmannia africana, of which the Committee desired to see plants.

Messrs. Heath & Son sent Masdevallia Heathi X, a hybrid between M. Veitchi and M. ignea rubescens.

The Duke of Marlborough, Blenheim Park, Woodstock (gardener, Mr. T. Whellans), sent Cypripedium Elliottianum, which is probably only a form of C. Rothschildianum.

Sir G. Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross), sent flowers of the pretty Hardenbergia Comptoniana, Mutisia Clematis, Canarina Campanula, the Brazilian Calliandra Tweediana—a beautiful stove plant—and a healthy stem of Aralia Veitchi, which had been grown planted out in a greenhouse temperature.

Mr. Gordon, The Nursery, Twickenham, sent cut flowers of Japanese Camellias—curious and showy—and three plants in flower of Japanese Azaleas.

Mr. J. Douglas sent the beautiful Hyacinthus azureus—quite a gem.

The Duke of Northumberland, Albury Park, Guildford (gardener, Mr. W. C. Leach), sent some boxes of excellently grown Violets, the varieties consisting of De Parme, Neapolitan, Marie Louise, and Swanley White.

Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, sent plants of Hose-in-Hose Polyanthus—rose, red, and crimson—useful for decoration.

Messrs. J. Veitch & Sons sent Dendrobium Schneiderianum, the result of a cross between D. aureum and D. Findlayanum; the sepals and petals are tipped and shaded with rose-magenta.

From the Society's Gardens, Chiswick, were sent some plants in flower of the pretty Saxifraga Burseriana.

Mr. R. Owen sent Genista Oweniana, producing freely spikes of bright yellow flowers. Mr. Owen was requested to send three blooms, and also a plant of an Ivy-leaved Pelargonium, exhibited with a single bloom only.

A single flower of a mauve-coloured Japanese Chrysanthemum, named Mrs. J. N. Gerrard, was shown.

F. Gledstanes, Esq., Manor House, Gunnersbury (gardener, Mr. R. Manning), sent some examples of Primula sinensis Manning's Seedling—of the Chiswick Red type.

Mr. F. Foreman, Eskbank Nursery, Midlothian, sent Skimmia macrophylla, which was referred to Dr. Masters for examination.

Mr. A. J. Mando, 139 Barry Road, East Dulwich, sent a coloured drawing of the new American Chrysanthemum, Mrs. Alpheus Hardy.

FRUIT COMMITTEE.

R. D. Blackmore, Esq., in the Chair, and twenty members present.

Awards Recommended:—

Cultural Commendation.

To Mr. P. Blair, gardener to the Duke of Sutherland, Trentham, Stoke-on-Trent, for fine well-grown Calville Blanche apples, from trees grown in 11-inch pots, under glass—almost equal to those from the South of France, where it is cultivated largely, the fruit being sold in Paris at a high price.

This apple, which is too tender for open-air cultivation in this country, is well worth the extra trouble of pot culture. As a dessert fruit, its rich tender flesh is unequalled.

Other Exhibits.

Mr. W. Divers, Wierton House Gardens, Maidstone, sent 14 varieties of apples, fairly well kept—Ribston Pippin, Winter Hawthornden, Stone Pippin, and Pile's Russet being the most meritorious.

SCIENTIFIC COMMITTEE.

Sir J. D. HOOKER in the Chair, and thirteen members present.

Injuries to Trees by Hoar Frost.—Additional and corroborative information was received from Mr. Plowright, of Lynn, of the remarkable occurrence, described at the last meeting, of boughs of various trees being broken off by the extraordinary deposit of crystals of rime upon them. As no snow had fallen during the period, it was impossible to attribute the results to such a cause. There had been excessive fog previous to January 7, 1889; the rime forming upon the telephone wires was so great that they were broken down. The ice was deposited unilaterally like flat sheets of glass, 1½ to 2 inches in width on the south side. On the 8th was a thaw. The result of the frost was that a birch had a branch amounting to one-third of the tree broken off; the smaller branches particularly suffered. The elms were most injured, branches of all sizes being broken off, even large arms, one measuring 5 feet 6 inches in circumference, and 1 foot 10 inches in diameter. To such an extent was the roadway covered with *débris* that the market carts were greatly impeded. Oaks, willows, and poplars also suffered; but ashes and Scotch firs escaped. Several photographs and broken branches were sent as illustrations of the way in which the damage was effected, for Mr. Plowright noticed that fracture without falling was a distinct feature of rime-injuries to trees, excepting to willows and poplars, the vast majority of whose branches fell to the ground. It was a remarkable sight, for example, to observe the broken but still pendent branches of the oaks upon the Hillington Road, hanging on them for some weeks afterwards, and all on the south side.

Mr. W. G. Smith recorded and figured in the *Gardening World* for March 20, 1886 (p. 457), a very similar occurrence at Dunstable, due on that occasion to frost, fog, and wind combined. The ice formed sheets as thin as paper, about 2 inches wide, and attached to the leeward sides of the boughs, but at intervals only to the wood, thus forming a series of arches. He attributed this fact to the warmer temperature of the living shoots, which melted the ice throughout the greater part. These blades of ice were about 2 feet long. Any little extra wind caused a stir among the branches like the sound of breaking glass. For several days previously the frost had been very severe, the hills at the same time being continuously hidden by wet fog, which was driven gently along by a biting wind from the north-east.

Barley Smut.—A communication was received from Mr. Plowright with specimens of Ustilago segetum, showing, in accordance with M. Jensen's opinion, two forms or species—one, the commoner, U. nuda, so called because the spores are almost naked; the other, U. tecta, because the spores are enclosed in a membranous capsule. They form, moreover, much more compact masses, and resist the disintegrating influences of the weather for a much longer period than do the spores of U. nuda. M. Jensen has also arrived at the conclusion, on biological grounds, that the smuts of wheat, of barley, and of oats are distinct species, and incapable of infecting other than their proper host plant. Brefeld concluded that the spores of U. segetum formed yeast colonies in sterilised farmyard manure, and concluded that cereals became infected by farmyard manure. Mr. Plowright was unable to confirm this view.

Galanthus Elwesi diseased.—Professor Marshall Ward reported upon the specimens forwarded by Mr. Barr to the last meeting. It appears that the fungus infesting the plants was a different species from the "Lily disease," and proved to be a form of Sclerotinia (Peziza), of which the parasitic state was the so-called "Botrytis" stage. Professor Ward has succeeded in infecting the common snowdrop.

Lily "Botrytis," Culture of.—Professor Ward exhibited specimens of his culture of this fungus. They were obtained from single spores, one in each of thirty flasks. The spore had produced a large quantity of mycelium until the nutrient fluid was nearly exhausted, when an immense quantity of black sclerotia was formed.

Abies bracteata Cone.—Dr. Masters exhibited a cone of this tree from a tree grown under the care of Mr. Coleman, of Eastnor Castle Gardens. It is remarkable for the long linear bracts accompanying the scales. Questions were raised as to the use of them, and how they could assist in the dispersion of the seeds. The cone when ripe is said to fall to pieces.

Skimmia japonica.—Dr. Masters has reinvestigated this plant, and finds that it is not known in Japan, but is really of Chinese origin. Mr. Fortune first brought it from the latter country. The true S. japonica is the plant known in gardens under various names, oblata, fragrantissima, &c.

Crocus with "Ephemeral Roots."—Dr. F. W. Oliver exhibited some crocus corms with tuberous roots. In this case the small corms, developed at the top of the old one, are provided with thick, fleshy, spindle or conical shaped roots, in direct prolongation of the axis of the young corm. They act as reservoirs of nutriment, in addition to the young corm itself. As they serve a temporary purpose only, Mr. G. Maw gave them the above name. Dr. Masters observed that they are quite different from the so-called "droppers" common in tulips, &c., which consist of a bent leaf-scale with an attached bulbil.

GENERAL MEETING.

March 26, 1889.

D. Morris, Esq., M.A., F.L.S. (Treasurer R.H.S.), in the Chair.

Elections.

Fellows, 24.—Frank A. Bevan, Mrs. Frank A. Bevan, Mrs. Bindlass, Chas. S. Broad, Albert Butcher, Thos. Butler, Alfred Richard Creyke, Mrs. Alfred Richard Creyke, Miss Gertrude Creyke, James Henry Crofts, B. R. Davis, Samuel James, Miss Johnson, Augustus Miles, Alfred Field Powell, Hon. Caroline Mary Powys, C. R. Scrase-Dickins, Mrs. Silver, Ernest Hartland South, Henry John Tallentire, Thomas Thompson, George Tidd, Charles Toope, Henry Edward Vickers.

The following papers were read :—(1) "Historical Notes on Dutch Hyacinths," by Heer A. E. Baarnart. (2) "The Cultivation of Hyacinths in Holland," by Heer T. H. Kersten. (3) "The Hyacinth from an English Point of View," by Mr. James Douglas, F.R.H.S.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and ten members present.

Awards Recommended :—

Silver Gilt Banksian Medal.

To Mr. G. Phippen, The Nursery, Reading, for an extensive group of Hyacinths, Tulips, Lilies-of-the-Valley, and other spring-flowering plants, interspersed with Palms and Ferns.

Silver Banksian Medal.

To Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, for collections of Hyacinths and Amaryllis. Amongst the former the following were the most noticeable varieties: James Watt, flowers of a distinct purple hue; Snowball, fine white; La Grandesse, large bells, one of the finest of the whites; King of the Blues; Salmon King, a distinct variety; Yellow Hammer, a new variety, spikes massive, colour pale yellow, and Garibaldi, bright red. The Amaryllis included Faust, a handsome variety, bearing large finely-formed flowers of a brilliant crimson colour, with a white bar down the centre of each segment; Ceres, flowers crimson, marked with broad bands of white; and Terentian, to which a First Class Certificate was awarded.

To Messrs. J. Laing & Sons, The Nurseries, Forest Hill, for a showy group of plants, composed of Dendrobium Wardianum; several varieties of Cattleya Trianæ—Delicata aurea being very fine—and several named varieties of Clivia, viz.: Louise Cremer, Mrs. Laing, Sulphurea, Madame Van Houtte, and B. S. Williams—the latter excellent; also three seedlings of considerable merit.

To Messrs. Barr & Son, King Street, Covent Garden, for an attractive display of Daffodils and other hardy flowers. Amongst the former were pans of such gems as Narcissus minimus and minor, and flowers of the distinct Johnstoni; and amongst the latter the pretty Scilla bifolia alba, Puschkinia libanotica compacta, the pale-coloured Chionodoxa cretensis albiflora, and Hepatica triloba alba, well grown.

First Class Certificate.

To Clivia John Laing (votes, seven for), from Messrs. J. Laing & Sons; a magnificent variety, bearing a strong spike of brilliant orange-scarlet flowers of large and fine form.

To Amaryllis Terentian (votes, unanimous), from Messrs. J. Veitch & Sons, a superb variety; the flowers of average size, perfect in form, and of a rich crimson colour.

To Saxifraga Malyi (votes, seven for, three against), from Messrs. Paul & Son, "Old" Nurseries, Cheshunt; a distinct and handsome species of vigorous growth—flowers pale yellow.

To Primrose Mikado (votes, five for, four against), from Mr. R. Dean, Ranelagh Road, Ealing, bearing flowers of a rich crimson colour, with white margin.

To Shortia galacifolia (votes, unanimous), from H. J. Elwes, Esq., Preston House, Cirencester; introduced from the Alleghany Mountains, and, so far as is known, the first time the species has flowered in Europe—a beautiful alpine allied to the Pyrola, of dense growth, bearing small white campanulate flowers.

Award of Merit.

To Hyacinth Yellow Hammer (votes, unanimous), from Messrs. J. Veitch & Sons; massive spikes, the flowers of fine form, colour bright yellow.

Other Exhibits.

Messrs. Paul & Son sent a charming group of Hardy Plants, consisting of the following interesting species of Roses: The true York and Lancaster, Rivers' Musk, Mignonette, and Viridiflora; several varieties of Moutan Pæonies, and a good plant of the white Lilac Marie Lemoine, a very fine variety; and Azalea Princess Clementine, a pure white variety of much value; also the following Saxifrages: S. Malyi, S. coriophylla, a dense-growing species, bearing pure white flowers; S. oppositifolia, bearing a profusion of rich purple flowers, and the early-flowering form of Anemone pulsatilla.

W. Clay, Esq., Elm Villa, Kingston-on-Thames (gardener, Mr. W. Hibburt), sent a collection of Cyclamen persicum in flower.

Earl Brownlow, Ashridge, Great Berkhampstead (gardener, Mr. R. B. Lowe), sent a finely flowered spray of Fortune's Yellow Rose—a singularly beautiful variety, the flowers of a warm apricot colour. This may be remembered as flowering profusely many years ago on the roof of the old Rose House at Chiswick.

Sir George Macleay, Pendell Court, Bletchingley, sent cut specimens of Brunsfelsia (Franciscea) calycina and B. grandiflora, from specimens planted out in an intermediate house, and three kinds of Brownea—viz., B. coccinea, an attractive species, brilliant scarlet, free-flowering; B. hybrida, somewhat larger; and B. grandiceps, the finest of all these interesting shrubs. These were cut from small specimens planted out in an intermediate house.

Mr. R. Sydenham, Birmingham, sent some well-developed Hyacinths, growing in cocoanut fibre refuse and shell shingle.

Messrs. J. Carter & Co., 237–8 High Holborn, sent Cineraria Emperor Frederick, a very distinct variety; also cut flowers of Cinerarias.

ORCHID COMMITTEE.

Sir Trevor Lawrence in the Chair, and thirteen members present.

A large number of Orchids were staged by various exhibitors on the occasion of the first sitting of the Orchid Section of the Floral Committee. The President of the Society exhibited a group of very fine Orchids, prominent being a large and well-flowered specimen of Cattleya Trianæ Eboracensis, some purple-spotted varieties of Odontoglossum Pescatorei, O. Ruckerianum, O. Andersonianum, Spathoglottis aurea (Kimballiana), Cymbidium Devonianum, and Oncidium superbiens. Mrs. Whitbourn of Great Gearies, sent a magnificent specimen of Cymbidium eburneum, with about twenty-five fine flowers expanded; the Rev. E. Handley, of Bath, a superb form of Oncidium macranthum, with a like number of flowers; A. H. Smee, Esq., of The Grange, Hackbridge, a small group of good Orchids; and the large collection of plants in flower staged by Mr. John Laing, of Forest Hill, was plentifully sprinkled with Dendrobes, including D. crassinode album, Odontoglossums, &c. Messrs. Jas. Veitch & Son sent their home-raised hybrid Dendrobium micans X, obtained from D. Wardianum and D. lituiflorum.

Among cut specimens a noble spike of the handsome Odontoglossun Stevensii (certificated previously), bearing eighteen flowers, measuring four inches by four and a half, came from Baron Schroder's garden; and J. C. Pickersgill, Esq., of Blendon Hall, Bexley, forwarded a noble spike of white Odontoglossum crispum, and some very large flowers of Lycaste Skinneri.

Awards:—

First Class Certificate.

To Oncidium superbiens, from Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bickerstaffe).

To Dendrobium micans X, from Messrs. Jas. Veitch & Son, Royal Exotic Nursery, Chelsea.

Award of Merit.

To Dendrobium melanodiscus X (Ainsworthii and Findlayanum), from Sir Trevor Lawrence, Bart., M.P.

To Cattleya Trianæ var., from Mr. Bruce Findlay, Botanic Gardens, Manchester.

To Cattleya Schroderæ alba, from A. H. Smee, Esq. (gardener, Mr. Cummins).

Botanical Certificate.

To Masdevallia Chestertonii, from A. H. Smee, Esq.

To Masdevallia triangularis, from Sir Trevor Lawrence, Bart, M.P.

Cultural Commendation.

To Odontoglossum Stevensii, from Baron Schroder (gardener, Mr. H. Ballantine).

To Cymbidium eburneum, from Mrs. Whitbourn (gardener, Mr. J. Douglas).

To Odontoglossum crispum, fine white, and Lycaste Skinnerii, with large flowers, from J. C. Pickersgill, Esq., Bexley.

To Oncidium macranthum, a fine variety, and remarkably well grown, from the Rev. E. Handley, Bath.

Vote of Thanks.

To Sir Chas. W. Strickland, Bart., for well-grown Cattleya citrina.

To A. H. Smee, Esq., for Cyrtopodium Saintlegerianum.

To Mr. G. T. White, for two very large varieties of Odontoglossum triumphans.

Plants sent to Name.

Zygopetalum sp. imported, from T. G. H. Eley, Esq., Hatcham. Mr. O'Brien said this was identical with a form of Zygopetalum Clayii X raised in this country, and was doubtless a natural hybrid of the same parentage.

Cymbidium sp. from Mr. Swan, gardener to G. C. Raphael, Esq., Englefield Green. Referred to Scientific Committee.

Cyrtopodium sp. from Mr. Jas. Hudd, Gordon House, Blackheath Park. Referred to Scientific Committee.

FRUIT COMMITTEE.

Sir C. W. STRICKLAND, Bart., in the Chair, and eighteen members present.

Award Recommended:—

Cultural Commendation.

To W. F. Hume Dick, Esq., Thames Ditton House, Thames Ditton (Mr. W. Palmer, gardener), for a dish of well-grown Black Hambro' Grapes.

Other Exhibit.

Messrs. W. & J. Brown, Stamford, sent Apple Shillaker's Seedling, which was not considered equal to other kinds in cultivation.

SCIENTIFIC COMMITTEE.

Dr. M. T. MASTERS in the Chair, and ten members present.

Cocoa-nut attacked by Coccus.—Mr. McLachlan exhibited leaves and a young cocoa-nut received from Jamaica severely attacked by two species of coccus, Fiorinia pellucida, *Signoret*, in abundance, and Mytilaspis buxi, *Sign.* (M. Pandani, *Colustock*), more sparingly. This diseased condition was prevalent in the West Indies. Mr. Morris remarked that cocoa-nuts in Jamaica first appeared to be attacked in 1881, after the cyclone in 1880. He had seen a plantation of 25,000 trees badly infested. The planters attributed their unhealthy condition in 1881 to the snapping of the roots in the cyclone of the previous year, whereby, the vitality of the trees being affected by the injury to the roots, they became an easy prey to the cocci. The insect attacks the outside fronds in the first instance, giving the trees the appearance of having been scorched. The older trees were described as bearing "blasted fruit." The usual remedies of sulphur spray or kerosene emulsion being impracticable, it was suggested that smoke might be partially effective. Whatever be the remedy adopted, Mr. McLachlan observed that it should always be applied just at the time when the larvæ are being hatched.

Effects on Plants of London Fog.—Mr. Dyer suggested that statistics should be collected on the nature and effects of London fog upon plants in and around the metropolis during the winter.

He said that they had not much ground for complaint at Kew until the winter of 1887–88. The fog proved injurious in two ways. First, in forming an oily deposit of dirt, which was left on all the glass houses. This was so thick and of so intractable a character that every pane had to be washed by hand. The houses looked as if they had slate roofs instead of being glazed. The same result occurred in the winter of 1888–89. Secondly, with regard to the injury to plants, it seemed out of all proportion to the nature of the fog, especially so on orchids. Thus, *e.g.*, when a fog comes on, the inflorescence of species of Phalænopsis breaks up, and the flowers, disarticulating, fall off. Many plants suffer more or less, and especially such as have a more tender foliage. Mr. Dyer remarked that the young foliage of a Carpenteria growing on a south wall did not suffer, while another plant under glass, with possibly tenderer foliage, was severely injured. The fogs extended even as far as Dorking, for Sir Trevor Lawrence lost a large number of flowers in a few hours. Mr. Veitch remarked that he found injurious effects to follow the two kinds of fogs, those caused by London smoke, and the ordinary country white fogs. In the dull weather accompanying the latter, flowers would not expand properly, as, *e.g.*, was particularly the case with early varieties of Lælia anceps. The yellow fogs of London had been getting steadily worse for the last twenty years. Camellias frequently lost their buds, especially certain kinds, as double whites. A peculiar feature observed by Mr. Veitch was that the fog seemed to gum up the buds at a certain stage of development. Either before or after that particular period of growth the buds were unaffected by the fog. He mentions that 1,000 flowers of Cattleyas were lost in three weeks.

Galanthus Elwesi diseased.—A letter was received from Mr. Barr, who had forwarded the diseased bulbs on which Professor M. Ward reported at the last meeting. He attributed the presence of the parasitic fungus as indirectly due to cultivation and to too rich a soil, from the following facts. In the garden whence the diseased plants had come Mr. Barr found that they had all disappeared except from places overgrown with grass and in a wild natural condition. There they were healthy and strong. His impression is that snowdrops cannot stand too much cultivation. Whether it be the manure or the soft spongy nature of prepared soil he could not say, but with him they die out in such a medium, whereas an escape on the hard margin of a bed grows and flowers well. It is the same with many other bulbs. In the centre of the bed they will perish, while the plants on the edge, which has been trodden down, will thrive. In an orchard where G. Elwesi was growing they were best in a position near to the roots of trees and in the most shaded parts. Mr. Barr suspects that fungus diseases are therefore correlated with uncongenial conditions, and that the cure rests in more attention to Nature's laws.

Mr. Wilson observed that in his experience snowdrops grew well in a rich soil. This was also Mr. McLachlan's, except that they became double. While it was suggested that manure might be the source of the spores of the fungi, Mr. Dyer remarked that no variation in the soil could have had anything to do with the production of the fungus. It was observed that, like the cocoanuts described above, some lowering of vitality appeared to render herbaceous plants more receptive of fungi, and the causes might be various, including high cultivation, which stimulated the vegetative system.

Rime, Phenomena of.—A communication was received from Rev. L. Blomefield, to whom the Secretary had forwarded Mr. Plowright's account of injuries to trees by rime, and the photographs of broken trees, with inquiries if he had ever experienced a similar occurrence. In reply, he said that he had only once seen such excessive rime at Swaffham Vicarage, "when all the twigs of the trees, even the slenderest, were so enveloped in long spiculæ, standing out perpendicularly to the length of an inch or two at least, as to resemble bottle-brushes. The effects were injurious in some cases, but not to the extent of large boughs of trees being broken. . . . . . . Fog, combined with a very low temperature and a perfectly still air, I suppose to be essential conditions." Mr. Plowright forwarded a large bough with several branches broken through and hanging upon it, illustrating the remarkable effects of rime near Lynn.

Plants exhibited.—Shortia galacifolia, by Mr. H. J. Elwes, a native of the Alleghanies, flowering for the first time in Europe; it appears to be allied to Pyrola. Anoiganthus breviflorus, *Baker*, a new Amaryllid from Natal with yellow flowers. Crocus vernus var. leucorhyncus. Narcissus minimus, brought from the Asturias by Mr. Maw, flowering a fortnight or more earlier than those in ordinary cultivation. Kyllingia monocephala, Symplocarpus fœtidus, &c. The preceding were brought by Mr. Lynch from the Botanic Gardens, Cambridge, to whom a vote of thanks was given.

GENERAL MEETING.

April 9, 1889.

Rev. W. Wilks, M.A. (Secretary R.H.S.), in the Chair.

Elections.

Fellows, 30.—Mrs. Aitkin, William Laurence Baker, S. Lee Bapty, Arthur Baxter, Mrs. L. W. F. Behrens, T. B. Bolitho, M.P., Herbert Edward Curtis, John Robert Featherby, Miss C. S. Flint, Mrs. Garth, Mrs. Grout, Thomas Hall, George Hammond, John Hingston, Miss Hutton, Sumner Jones, Dr. C. Mordaunt Matthew, Albert Molineux, Harold G. Morris, T. B. Morton, Henry R. Rainger, Mrs. Francis Ricardo, Samuel Ryder, junr., Christer P. Sandberg, C.E., Henry Sibray, James Benjamin Slade, Hon. Mrs. Alex. Stewart, John G. Treseder, William Charles Wigley, Bernard G. Wilson.

The following papers were read:—(1) "The Narcissus," by Mr. F. W. Burbidge, M.A., F.L.S., M.R.I.A. (2) "Seedling Daffodils," by the Rev. G. H. Engleheart, M.A., F.R.H.S. (3) "Observations on Portuguese Narcissi," by Mr. Alfred W. Tait, F.L.S.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and sixteen members present.

Awards Recommended:—

Gold Medal.

To Baron Schroder, The Dell, Egham (gardener, Mr. H. Ballantine), for a magnificent group of Orchids—the most noteworthy examples being Dendrobium Jamesianum; D. nobile nobilius, the most richly coloured of the several forms of this fine old species; D. nobile elegans, very beautiful; D. nobile album, a pale form of great beauty; D. euosmum leucopterum, a charming hybrid, to which a First Class Certificate was awarded; D. splendidissimum grandiflorum, a superb form; Cattleya speciosissima Schroderiana, a beautiful variety; Lælia harpophylla, bearing several spikes of its brilliantly coloured flowers; and the following Odontoglossums: O. Wilckeanum pallens, bearing a magnificent raceme of flowers; O. elegans, O. Coradinei, O. triumphans, O. Wilckeanum, and O. aspersum superbum.

Silver Gilt Banksian.

To Messrs. F. Sander & Co., The Nurseries, St. Albans, for a magnificent group of Orchids, especially noticeable being Dendrobium Dalhousianum, very fine, D. Devonianum, D. transparens, Odontoglossum Hallii leucoglossum, Cymbidium Lowianum, and Oncidium bifolium.

Silver Banksian.

To Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking (gardener, Mr. W. Bickerstaffe), for an interesting group of Orchids, amongst which Cypripedium Curtisii, a handsome species with beautifully marked foliage; Aeranthus Leonis; Lycaste Schilleriana, rare and distinct; Cymbidium Dayanum, bearing several well-developed spikes; Odontoglossum Harryanum; and Catasetum barbatum proboscideum, a singular form.

To F. G. Tautz, Esq., Studley House, Goldhawk Road, W. (gardener, Mr. J. C. Cowley), for a group of Orchids: Cymbidium eburneum, very fine; the Studley House form of Cypripedium villosum, flowers of a golden hue; Miltonia vexillaria purpurea, a high-coloured form which was awarded a certificate; and Cattleya speciosissima Bella Donna, a distinct variety, highly coloured.

To Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for an extensive group of cut Daffodils, comprising Sir Watkin; Colleen Bawn, a beautiful form of Moschatus; The Emperor and Empress, especially good; Princess Mary of Cambridge, Queen Bess, and Horsfieldii. Anemones were likewise admirably shown.

To Messrs. Barr & Son, Covent Garden, for a group of Daffodils: Henry Irving, of large size and richly coloured; Duchess of Brabant, distinct and handsome; and Rugilobus variiformis, a beautiful variety belonging to the bicolor section. Anemones were also well shown and in great variety.

The Royal Gardens, Kew, sent a beautiful and interesting group of plants, comprising several Primulas well grown and flowered, such as P. Clusiana; P. marginata cœrulea, a handsome variety, bearing flowers of a bright blue shade; and the rare P. petiolaris. Some good Orchids were likewise shown, including the white-flowered Diacrium (Epidendrum) bicornutum, of great beauty; Restrepia elegans and Pleurothallis insignis. Amongst miscellaneous subjects were Rudgea macrophylla; Columnia Kalbreyeri, with large yellow flowers; Hyoscyamus orientalis, a handsome species with purplish flowers; and Godwinia gigas, having a well-developed spathe.

Award of Merit.

To Rose (H.P.) Gloire de Margottin, from Messrs. H. Lane & Son, The Nurseries, Great Berkhampstead, as a forcing Rose (votes, unanimous), bearing medium-sized, well-formed rich crimson flowers.

Cultural Commendation.

To Carnation Souvenir de la Malmaison, a well-flowered plant, from H. M. Houldsworth, Esq., Wilton, Salisbury.

Other Exhibits.

Sir George Macleay, Pendell Court, Bletchingley, sent cut specimens of Mutisia Clematis, very attractive with its large pendulous scarlet flowers. It is a cool greenhouse climber, and blooms freely for a considerable period of the year. Kennedya rubicunda was likewise noticeable with its rich crimson flowers.

Mr. R. Dean, Ealing, sent several very pretty Hardy Primroses; also cut flowers of Polyanthus Evagil, of which the Committee requested to see plants.

Messrs. J. Veitch & Sons, Chelsea, sent Amaryllis Sirocco, a noble crimson flower.

Mrs. Shilson, Tremough, Penrhyn, Cornwall (gardener, Mr. R. Gill), sent cut blooms of Himalayan Rhododendrons, very fine, from plants growing in the open air.

Messrs. Vilmorin, Andrieux & Co., Paris, sent some plants in flower of the French strain of Cinerarias.

Mr. H. B. May, The Nursery, Upper Edmonton, sent Pteris Rex, a promising variety, which the Committee requested to see again.

Mr. W. Gordon, The Nursery, Twickenham, sent several Tree Pæonies in flower.

ORCHID COMMITTEE.

Sir Trevor Lawrence, Bart., M.P. (President R.H.S.), in the Chair, and eight members present.

The meeting was marked by a very fine gathering of Orchids, not only as regards rarity and beauty, but also in quantity, the greater portion of the staging running up the middle of the Hall being taken up by them.

Foremost must be placed the large group staged by Mr. H. Ballantine, from Baron Schroder's collection at The Dell, Egham, to which was awarded a Gold Medal, and which was remarkable for a fine representative collection of varieties of Dendrobium nobile, ranging from the almost pure white with maroon eye D. nobile (Schroder's var.) to the rich crimson D. nobile nobilius; the D. nobile Cooksonii, with petals blotched with purple like the lip, to the fine old D. nobile elegans. Dendrobium Ainsworthii, too, was represented by fine specimens; also the new D. euosmum leucopterum, D. Jamesianum, the flowers snow-white with orange lip, D. barbatulum, and other Dendrobes. Odontoglossums in this fine group were O. Hinnus, O. elegans, and several very fine forms of Wilckeanum. Among Cattleyas was a noble specimen of the rosy-crimson C. Lawrenceana, with twenty-two flowers; and Lælias were represented by a many-spiked specimen of the scarlet L. cinnabarina, and the extremely rare L. Jongheana, with rose-coloured flowers five inches across, the ridges on the centre of the lip being bright orange.

A Silver Gilt Banksian Medal was awarded to Messrs. F. Sander & Co., of St. Albans, for a fine group of well-grown specimens, comprising Odontoglossum Hallii, O. H. leucoglossum, an elegant specimen of Dendrobium transparens, literally covered with pale lilac flowers; another of the closely allied D. marmoratum, and an equally fine specimen of D. Devonianum, not often seen of such great size. A large specimen of Cattleya Skinneri, one of the rich crimson-lipped C. Trianæ superba, a good C. Lawrenceana, a fine specimen of the rare golden Oncidium bifolium majus, and the pure white Trichopilia suavis alba, were also in Messrs. F. Sander & Co.'s collection.

To Sir Trevor Lawrence, Bart., M.P., and also to F. G. Tautz, Esq., Studley House, Goldhawk Road, were awarded Silver Medals for groups of rare Orchids, that from the President of the

Society being rich in rare plants of special botanical interest, as well as showy species exceptionally well flowered. The white and fragrant Aeranthus Leonis had two sprays of ten flowers; the rare Cymbidium eburneum Dayanum, with purple spots on the lips of its waxlike white flowers, had eleven large blossoms; Cypripedium Curtisii was perhaps never so well shown; and Lycaste Schilleriana, Catasetum barbatum proboscideum, and Restrepia elegans, most singular and beautiful species. A new white Epidendrum was also exhibited by Mr. Bickerstaffe from the Burford Lodge collection with the others enumerated.

In Mr. Tautz's group the most rare and beautiful plant was Miltonia vexillaria purpurea, with large flat purplish rose flowers—the best of the coloured M. vexillarias. A magnificent specimen of Cymbidium eburneum also bore twenty-four large white flowers; Miltonia vexillaria leucoglossa had a fine spray of nearly white flowers; and the true Cypripedium villosum aureum, which has the dorsal sepal almost wholly yellow, was exhibited.

From the Royal Gardens, Kew, and staged with the wonderful collection of Aroids and other plants from those gardens, was a large mass of the white Diacrium (Epidendrum) bicornutum with ten fine sprays—a marvel and a triumph of good culture of this difficult plant. The elegant Pleurothallis insignis was also in the Kew group, and an interesting lot of terrestrial Orchids—comprising Orchis Morio picta, O. pallens, O. longibracteata, and O. arachnites.

Messrs. James Veitch & Son sent a hybrid Dendrobe between D. Wardianum and D. aureum, and evidently intermediate in character, but not strong enough to judge. Mr. Blair sent from Trentham Gardens, Stoke-on-Trent, a fine hybrid Odontoglossum named O. Sutherlandii, with yellowish flowers spotted with reddish brown; George Firth, Esq., of Manningham Thorps, near Bradford, a cut spray of the pure white variety of Phalænopsis Schilleriana, which, in addition to its having white flowers, has also the strong rose scent of the coloured variety, of which also a fine spray was sent, and another of P. amabilis. Messrs. Hugh Low & Co. sent a plant of the rich crimson spotted Cypripedium bellatulum.

Awards Recommended:—

Awards for Groups of Orchids.

Gold Medal to Baron Schroder (gardener, Mr. H. Ballantine);

Silver Gilt Banksian Medal to Messrs. F. Sander & Co.; Silver Medal to Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bickerstaffe); Silver Medal to F. G. Tautz, Esq. (gardener, Mr. Cowley).

First Class Certificate.

To Dendrobium euosmum leucopterum × (Baron Schroder).

To Miltonia vexillaria purpurea (F. G. Tautz, Esq.).

Botanical Certificate.

To Lycaste Schilleriana (Sir Trevor Lawrence); Catasetum barbatum proboscideum (Sir Trevor Lawrence); Restrepia elegans (Sir Trevor Lawrence).

Award of Merit.

To Oncidium bifolium majus (F. Sander & Co.).

FRUIT COMMITTEE.

R. D. BLACKMORE, Esq., in the Chair, and seventeen members present.

Awards Recommended:—

Award of Merit.

To Cucumber Covent Garden Favourite, from Mr. W. Unwin, The Piazzas, Covent Garden Market (votes, unanimous); a uniform, handsome-shaped fruit, stated to be a variety much appreciated for market purposes.

Cultural Commendation.

To Mr. J. T. Harris, Great Lodge, Tonbridge, for Strawberry Harris's A1 Early Forcing. Fourteen plants bearing fruit were shown. The fruit is large, cockscombed, somewhat flat, and of a pale-red colour.

The Committee expressed a desire to have the variety sent to Chiswick for trial.

Other Exhibits.

Mr. R. Dean, Ranelagh Road, Ealing, sent examples of Potato Dean's Early Sunrise, a very early variety.

Mr. W. Divers, Wierton House Gardens, Maidstone, sent heads of an "Improved Purple Sprouting Broccoli," which was referred to Chiswick for trial.

SCIENTIFIC COMMITTEE.

Dr. M. T. MASTERS in the Chair, and nine members present.

Hybrid Ferns.—Mr. Morris exhibited three sets of seedling varieties of Scolopendrium vulgare, presented to Kew by Mr. E. J. Lowe, F.R.S., of Shirenewton Hall, Chepstow. Mr. Lowe has been investigating the effect of cross-fertilisation of different varieties of British ferns in the prothallium stage. The results have been most interesting and suggestive. If spores from different varieties are sown together the archegonia on the same prothallium are often fertilised by antherozoids derived from other sources, and thus are produced numerous hybrid forms. For instance, the prothallium with the archegonia may be derived from a spore of the rugose variety, while the antherozoids may be obtained from a prothallium of the digitate variety, or from one derived from a marginate variety. In the former case there would be produced a rugose-digitate variety, and in the other a rugose-marginate variety. If after fertilisation the prothallium is divided—as was done in nearly 500 instances by Mr. Lowe—the plants derived from it and carefully cultivated have been found to vary considerably, and to partake more or less of the various characteristics of the spore-bearing plants. In the specimens placed before the Committee the conclusions sought to be attained by Mr. Lowe's experiments were apparently fully borne out.

Mr. Dyer alluded to Mr. Lowe's specimens exhibited before the British Association as being very extraordinary in character. He observed that the prothallia of ferns usually bear antheridia first and then archegonia, being thus analogous to protandrous flowers. If left to itself it rarely produces more than one seedling, the whole of the energy at the disposal of the prothallium being concentrated in one individual; but by cutting a prothallium in two, as Mr. Lowe has done, at least one, if not more, archegonia could be borne by each half, which then retained its own individuality, each having possibly been crossed, and thus producing a different form from the other. He also referred to the fact that it was only during the lifetime of Sir Joseph Banks that the existence of the prothallium of ferns was made known.

Oxalis sp.—Mr. Morris also exhibited some bulbs covered with remarkable scales of a rich brown colour, apparently of a new species of Oxalis collected in South Africa by Mr. Farini in 1885. The outer scales are an inch in length, entire, and of a linear pointed character. The inner scales are thread-like and wavy. *In situ* they are packed closely together, forming a matted cushion round the bulbs. Unfortunately, none of the latter reached this country in a living state. From the material available there can be little doubt the plant is a species of Oxalis, but different from anything represented under cultivation. It was suggested that the spiral character of the inner scales may by their hygroscopic character assist the bulbs to rise near the surface after rains, and to descend during dry weather.

Sclerotinia on Snowdrops.—Professor Marshall Ward exhibited one of his very successful cultures of this disease raised from the fungus which attacks snowdrops. He has worked out a very complete life history, which will be hereafter published. With reference to Mr. Barr's experience of the dying out of snowdrops in a rich soil, Mr. Wilson remarked that he inquired of Mr. Melville, of Dunrobin Gardens, Golspie, N.B., who raises large numbers. His reply is that they do very well with him, his land being a deep, free, black loam resting on an old sea-bottom of gravel and sand. He adds that he thinks snowdrops and other bulbs are very impatient of an adhesive, clayey, or wet and cold, as well as ill-drained soil, good drainage being imperative. The question was raised as to the meaning of the common expression "predisposition to disease" in plants. Mr. Dyer remarked upon the ambiguous and misleading character of this term, and emphasised the necessity of ascertaining in each case the real cause of an attack by a fungus. Thus, if a hypha entered by the stoma, a varying degree in the size of this organ might make all the difference as to the immunity of a plant from a parasitic attack, which, therefore, would have had nothing to do with the constitution of the plant, and so might not be in the least degree enfeebled. Sir C. Strickland remarked that certain varieties of potatoes had at first been liable to the disease, but resisted it afterwards. Hence in their case also it might have been due to some such mechanical cause as a thickened cuticle, and not necessarily to an altered constitutional character.

Blue Primroses.—Mr. Wilson exhibited a box containing three flowers of "Scott Wilson" primrose and one flower each of its descendants. Most of them have a more or less blue colour; some having less of the blue-plum colour, and are apparently nearer to a true blue than has been hitherto obtained.

Daffodils and Rot.—Rev. C. Wolley Dod forwarded some daffodils suffering from rot, with the following remarks:—"Owing, I believe, to the cold spring and summer of last year, rot has been unusually destructive, and I have lost nearly one-third of my crop. I have divided the daffodils sent into two lots. Those in No. 1 are affected with a rot too well known to daffodil-growers. I attribute it to the presence of too much wet in the soil at the ripening stage of growth, assisted by coldness of soil. You will see that few or no new rots are made. The way in which whole clumps die off has led me sometimes to think the disease may be contagious. The bulbs in No. 2 are differently affected, and I think from a different cause. Last year I lost far more daffodils from this affection than I have done this year. I attribute it simply to the mechanical effect of severe late frosts coming when the soil is wet, as the seat of the damage is on the surface line. The violent constriction in the heavy soil caused by the frost cuts the leaves nearly in two, and no further growth is made. These 'No. 2' daffodils seem all to have made a healthy start." The general opinion of the Committee seemed to coincide with Mr. Dod's, that both results were probably due to some defective conditions of the soil. In the first case, in which no roots were produced, most probably this was an insufficient drainage; and in the second the decay was due to the land being heavy and wet, and then probably roughly forked over, so that clods were partially resting upon the growing bulbs, which could not satisfactorily raise the foliage. It will be observed that Mr. Melville strongly advocates good drainage, whether it be naturally or artificially made, for all bulbous plants.

Warts on Vine Leaves.—Mr. J. Wright sent leaves thus affected from a Black Hamburg vine, a Royal Muscadine in the same house being unaffected. Last year the atmosphere of the house was kept rather moist, and this year much drier; but neither condition appeared to have any effect upon the state of the leaves. The cause was suggested by Professor Marshall Ward and others to be deficient ventilation, the effect of this being to increase the humidity of the air to too great an extent;

this in turn produces turgidity of the cells, with a consequent hypertrophied condition, resulting in the so-called "warts."

Underground Temperature.—Mr. Henslow exhibited tables of curves, showing the variations in the maximum, minimum, air, and underground temperatures at a depth of 12 inches for the preceding three months, taken by him at Ealing. The features brought out by comparison were: (1) The much slighter oscillations in the subterranean temperatures than in the other three; (2) That while the subterranean varies with a maxima and minima when their fluctuations are great, they often remain unaffected when the latter are slight; or (3) the curves may correspond with one or other only of them respectively. Taking the means for the three months, they are as follows:—

	Mean Maximum	Mean Minimum	Mean Air	Mean Subterranean
	°	°	°	°
January . . .	42	30	34	37
February . . .	42	30	35	37
March . . .	45	32	40	39

Hence the mean subterranean temperature was in each case 1° higher than the mean between the maximum and minimum of each month. Comparing the subterranean with the minima on January 6 the lowest minimum was 19°, but the subterranean temperature never fell below 32°. On February 13 the lowest minimum was 18°, the subterranean temperature being 33°, the lowest for the month. On March 18 the lowest minimum was also 18°, the subterranean being again 33°. Comparing subterranean with maxima, on January 19 and 27 the highest maximum occurred, viz., 51°, the subterranean reaching 40° on both dates, while on the 31st it was 41°. In February there were two high maxima, viz., on the 1st 54°, the subterranean being 45°; and on the 18th 56°, the subterranean being 44° on the 20th. In March a series of six maxima ranged from 50° on the 14th to 59° on the 28th and 30th; the subterranean had five corresponding maxima, reaching 46° on the 30th.

Injurious Effect of London Fog.—Mr. Dyer laid before the Committee a short scheme to indicate the line suggested for inquiries into this matter:—1. The natural history of fog considered (*a*) in its meteorological conditions, and (*b*) as to its chemical and physical components; 2. The empirical effects of fog (*a*) as diminishing the amount of light, and (*b*) in its injurious effects arising from the action of its poisonous and obstructive components; 3. The microscopical study of lesions to tissues produced by fog; and 4. Experimental data likely to throw light on the subject. Various experts will be invited to take part in the investigation, and a circular will be issued to cultivators, asking for their experience. Professor Church furnished the remarkable fact that he had noticed how Convolvulus major growing in the Portland Road was bleached by rain-drops. This was due to the presence of sulphurous acid in addition to the usual sulphuric (in the form of sulphates) in London rain. He found also that when London fog was filtered the air was acid, but the soot was alkaline, in consequence of the presence of ammonia. Dr. Russell has even detected arsenious acid in rain-water collected in the City.

GENERAL MEETING.

April 23, 1889.

Mr. James Douglas, F.R.H.S., in the Chair.

Elections.

Fellows, 6.—Miss E. Bloom, Richard Henry Fremlin, C. S. Gordon, Miss E. Phillipps Russell, George Hyde Wollaston, M.A., F.G.S., Professor Edward Perceval Wright, M.D., F.L.S.

The following paper was read: "The Auricula," by the Rev. F. D. Horner, M.A., Burton-in-Lonsdale.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and fourteen members.

Awards Recommended:—

Silver Gilt Banksian Medal.

To Mr. J. Walker, Whitton, Middlesex, for a fine group of Daffodils, of good quality, and containing a number of handsome varieties, the most noticeable being Narcissus Dr. Hogg, french-white trumpet; N. Leedsi Gem, white and palest yellow; N. L. Flora Macdonald, N. Colleen Bawn, N. Barri, N. Beatrice Murray, and Corbularia conspicua.

To Messrs. Barr & Son, King Street, Covent Garden, for an equally good group of Daffodils, conspicuous being N. John Nelson, N. Flora Wilson, N. Lady Grosvenor, N. Duchess of Westminster, N. Walter Kendal, the latter of the incomparabilis type—a magnificent flower; and N. Gloria Mundi.

To Mr. W. Rumsey, The Nursery, Waltham Cross, for a well-grown group of Roses in pots, the most noticeable varieties being Madame Lacharme, Madame Eugène Verdier, Marquise de Castellane, Perle d'Or, Miss Hassard, and Alphonse Soupert.

Silver Banksian Medal.

To Messrs. Ryder & Son, The Nurseries, Sale, Manchester, for a charming and effectively arranged group of Primula Sieboldi (in variety), the plants—shown in pans—presenting a mass of flowers. Several forms were selected for awards of merit.

To Mr. A. Waterer, Knap Hill Nurseries, Woking, for ten very fine boxes of Hardy Primroses—the colours of the flowers being rich, varied, and beautiful.

To Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, for a good group of Ornamental Shrubs, with several plants of the sweetly-scented Staphylea colchica. The Japanese Maples constituted a pretty and effective feature.

Bronze Banksian Medal.

To Mr. T. S. Ware, Hale Farm Nursery, Tottenham, for a group of Hardy Plants in flower, consisting mainly of Primroses (in variety), with Cypripedium calceolus, Habranthus pratensis fulgens, &c.

To Messrs. Paul & Son, "Old" Nurseries, Cheshunt, for a miscellaneous group of Flowering Plants, containing Amaryllis in variety, very beautiful, Tulipa Leichtlini and Aubrietia Leichtlini (both the latter plants being certificated), Hardy Primroses, &c.

To Mr. J. Walker, The Nursery, Thame, for excellent examples of Maréchal Niel and Niphetos Roses (cut blooms).

First Class Certificate.

To Epiphyllum Makoyanum (votes, unanimous), from Messrs. J. Veitch & Sons; closely resembling E. Gaertneri; flowers rich scarlet, flushed with orange.

To Rhododendron Her Majesty (votes, unanimous), a hybrid between R. Fosterianum and R. arboreum, from Messrs. J. Veitch & Sons; a noble flower, about 4½ inches across, of a soft crimson shade.

To Tulipa Leichtlini (votes, 6 for, 4 against), from Messrs. Paul & Son; of the character of T. stellata, bearing small pale yellow flowers.

Award of Merit.

To Aubrietia Leichtlini (votes, 5 for, 1 against), from Messrs. Paul & Son; plant dwarf, and covered with bright rose-coloured flowers.

To Amaryllis Sea Nymph (votes, 5 for, 3 against), from Messrs. Paul & Son; colour white and scarlet; a finely formed flower.

To Coleus Eureka (votes, 6 for, 4 against), from Mr. S. Hill, The Nursery, Forest Gate; leaves richly coloured.

To Primula Sieboldi var. Queen of Whites (votes, unanimous), from Messrs. Ryder & Son; a beautiful flower, pure white.

To Primula Sieboldi var. Miss Nellie Barnard (votes, unanimous), from Messrs. Ryder & Son; brilliant rose.

To Primula Sieboldi var. Mrs. Ryder (votes, unanimous), from Messrs. Ryder & Son; white, shaded with delicate pink.

To Primula Sieboldi var. General Gordon (votes, unanimous), from Messrs. Ryder & Son; rose-shaded white.

To Primula viscosa splendens (votes, 7 for, 1 against), from Messrs. Ryder & Son; a beautiful shade of rose-pink.

To Primrose G. F. Wilson (votes, unanimous), from G. F. Wilson, Esq., F.R.S., Heather Bank, Weybridge Heath; flowers very deep violet-blue, yellow eye.

To Primrose Quakeress (votes, 5 for, 4 against), from G. F. Wilson, Esq., F.R.S.; flowers of an almost blue tint, small yellow eye, margined with rich crimson.

To Climbing Polyantha Rose Claire Jacquier (votes, unanimous), from Messrs. W. Paul & Son, Paul's Nurseries, Waltham Cross; white or yellow-coloured flowers—very elegant.

To Mignonette Garaway's Double White (votes, 6 for), from Messrs. Garaway & Co., The Nurseries, Clifton, Bristol; a vigorous-growing variety, of fine habit, the flower spike of good length.

Other Exhibits.

From the Royal Gardens, Kew, were sent many species of Primulas, including such pretty gems as P. viscosa confinis, P. Kitaibeliana, P. pseudo-Fosterii, and P. Peyritschii. Other plants of interest were Lathræa clandestina, which had been cultivated in the Gardens on the roots of a willow, bearing purple flowers about 1½ inches in length, L. squamaria (the British species) being sent for comparison; the old Cineraria cruenta was noteworthy as the plant from which our garden Cinerarias have been developed; Rhododendron Kewensis, bearing several trusses of pale flesh-pink flowers; Mertensia virginica, Saxifraga flagellaris, and Mackaya bella.

Mr. R. Dean, Ranelagh Road, Ealing, sent a hybrid Primula, a cross between P. ciliata purpurea and Alpine Auricula Beatrice. The Committee expressed a desire to see the plant again.

ORCHID COMMITTEE.

Dr. Maxwell T. Masters, F.R.S., in the Chair, and nine members present.

The exhibits of Orchids at this meeting, if few, were of excellent merit. From the collection of Sir Trevor Lawrence, Bart., M.P., came two neat plants—covered with white flowers, with rosy-crimson labellums—of Tetramicra (Leptotes) bicolor and its variety T. bicolor serrulata; also the pretty hybrid Dendrobe D. melanodiscus raised at Burford Lodge by intercrossing D. Ainsworthii and D. Findlayanum; from the same gardens came the curious European Orchid Ophrys Bertolonii, which had a solitary flower, in general appearance resembling our Bee Orchis, but much larger—sepals and petals rosy-lilac, the lip the richest velvety maroon.

R. B. White, Esq., of Arddarroch, N.B., sent a handsome pearly-white form of Cattleya Mendelii, which was named C. Mendelii Arddarroch variety. It is near to the plant known in gardens as C. Bluntii.

H. M. Pollett, Esq., Fernside, Bickley, staged a very distinct form of purple-spotted Odontoglossum Pescatorei, with flowers of perfect shape, and named O. Pescatorei Thomsonianum.

From the gardens of Norman C. Cookson, Esq., Wylam-on-Tyne, was sent a good specimen of a new Cypripedium obtained by him by crossing C. caudatum with the pollen of C. conchiferum, and it was named C. nitidissimum, and bore a three-flowered spike of showy flowers, the upper and lower sepals being pale yellowish-green, veined with darker green, the pouch cream-white inside, beautifully spotted with rose, the outside being veined with green and tinged with red; it had the characteristic tail-like form of the petals seen in C. caudatum, but shorter, although a better idea of the flower may be got by imagining a considerably enlarged C. conchiferum X. In other respects it approaches C. grande X.

Cut spikes of a very fine form of Odontoglossum cirrhosum came from Arthur Wilson, Esq., Framley Croft, Hull (gardener, Mr. J. P. Leadbetter); and Mr. Cowley again brought from the collection of F. G. Tautz, Esq., Cattleya Lawrenceana concolor, a variety wholly of a pale lilac.

Mr. A. Methven, gardener to T. Lange, Esq., Heathfield Lodge, Gateshead-on-Tyne, brought a fine specimen of their fixed sport from D. nobile, known in their gardens as "Heathfield variety," and from which came the plants which Professor Reichenbach named for Norman G. Cookson, Esq., D. nobile Cooksonianum, and which was afterwards certificated as such at the Royal Horticultural Society. The Heathfield name not having been published, the Committee decided that it must bear the published and certificated name, D. n. Cooksonianum.

Botanical Certificate.

To Ophrys Bertolonii, from Mr. Bickerstaffe, gardener to Sir Trevor Lawrence, Bart., M.P.

Vote of Thanks.

To F. G. Tautz, Esq., for Cattleya Lawrenceana concolor.

To T. Lange, Esq., for Dendrobium nobile Cooksonianum and Cattleya Mendelii.

To Arthur Wilson, Esq., for Odontoglossum cirrhosum.

All awards by unanimous vote.

The interesting group from the Royal Gardens, Kew, also had in it good examples of Orchis undulatifolia, O. longicornu, O. papilionacea, &c.

Awards Recommended:—

First Class Certificate.

To Odontoglossum Pescatorei Thomsonianum, from H. M. Pollett, Esq.

To Cypripedium nitidissimum X, Norman G. Cookson, Esq.
To Cattleya Mendelii Arddarroch variety, R. B. White, Esq.

FRUIT COMMITTEE.

T. Francis Rivers, Esq., in the Chair, and twelve members present.

Award Recommended :—

Silver Banksian Medal.

To Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, for a collection of Apples in excellent condition—the most noteworthy varieties being Seaton House, Lord Derby, Betty Geeson, King of Tomkins County, Alfriston, Stone's, Bismarck, Washington, and Cox's Pomona.

Other Exhibits.

Mr. R. Gilbert, Burghley Gardens, Stamford, sent two varieties of Rhubarb, viz., Salt's Crimson and Hawke's Champagne, which the Committee desired to see growing at Chiswick.

Sir C. W. Strickland, Bart., Hildenley, Malton, sent a sample of Jam made from Winesour Seedling Plum.

SCIENTIFIC COMMITTEE.

W. T. Thiselton Dyer, Esq., C.M.G., in the Chair, and eight members present.

Scales of Oxalis.—Adverting to the specimens shown at the last meeting, Mr. D. Morris mentioned that he had since forwarded some of the scales of the species of Oxalis to Professor Hildebrand, of Freiburg, in Baden, the monographer of the genus Oxalis. Professor Hildebrand's opinion was as follows :—"The larger scales you have sent me have the appearance and anatomical structure of those of Oxalis Bowiei. The curled filaments have the same structure, but I cannot imagine to what part of the bulb they were attached. Perhaps they are a means of dispersion for the bulbs. Besides the scales I found two bits of stems that are very like those of Oxalis variabilis. So it seems likely to me that the bulbs belong to some species of Oxalis, but I never saw in any cultivated or dried specimens any scales like the curled ones." Mr. Morris exhibited a complete bulb, showing the exact position occupied by the curled filaments, which was immediately beneath the larger outer scales and closely investing the bulb.

Camellia Soil.—A Fellow of the Society sent a sample of soil from a bed in which the Camellias were not doing well. The soil was a mass of fungous spawn, derived, probably, from imperfectly rotted manure or rotten leaves or twigs.

Galls on Eucalyptus.—From Baron Sir Ferdinand von Mueller came further specimens of the extraordinary horned galls, such as were formerly figured in the *Gardeners' Chronicle.* Mr. McLachlan referred to a paper of Mr. Schrader in the *Transactions of the Entomological Society of New South Wales,* and stated that the galls in question were probably the work of an insect allied to Coccus, and belonging to the Brachyscelidæ. The four horns appeared to be outgrowths from the margin of the receptacular tube, the overgrowth being the result of the irritation caused by the insect in depositing her eggs.

Baron von Mueller also sent an extraordinary specimen of Banksia, on which Dr. Masters undertook to report at the next meeting.

Mr. Dyer alluded to the peculiar polymorphic condition of the leaves in Acacia armata in cultivation at Kew. Dr. Masters stated that such outgrowths were not uncommon in Acacias. He had described and figured some specimens received at various times from Baron von Mueller.

The Season.—Mr. Dyer presented a note from Mr. Scott, the Director of the Meteorological Office, relating to the "useful" temperature as reckoned in "day degrees," and to the amount of sunshine since January 1 of the present year, as compared with recent years :—

Results from the Weekly Weather Report. Totals since January 1.

	Accumulated Temperature in Day Degrees		Sunshine: Total Hours
	Above 42°	Below 42°	
Up to April 7, 1884 . .	394°	119°	218
" " 6, 1885 . .	238°	368°	234
" " 5, 1886 . .	141°	557°	207
" " 11, 1887 . .	208°	468°	300
" " 9, 1888 . .	88°	556°	195
" " 8, 1889 . .	180°	435°	210

This shows that the present season has been much better than the last, except as regards the amount of sunshine, in which there is not much improvement.

The figures are not rigidly comparable, because the weeks of different years do not end on the same day.

The Effects of Fog on Plants.—A further discussion took place on this subject, and it was agreed to postpone the issue of the proposed circular till the autumn.

GENERAL MEETING.

May 14, 1889.

W. T. Thiselton Dyer, Esq., C.M.G., F.R.S., in the Chair.

Elections.

Fellows, 25.—J. W. Addington, Dr. E. Bonavia, J. W. Clark, T. Grange, J. Halse, Miss A. Hardcastle, W. G. Hazell, A. J. Hemmerde, E. J. Howell, W. H. Hutchinson, Mrs. Hutchinson, W. Kaye, Mrs. Keller, W. G. Lindup, Mrs. Shirley R. Miles, Mrs. Miller, Mrs. Morrison, Rev. C. A. Rosser, Leveson Scarth, R. B. Sharpe, Mrs. Vincent, R. E. West, Wm. Whitley, Mrs. Whitley, and James Wilcox.

The following paper was read:—"The Classification and Culture of Irises," by Professor Michael Foster, M.D., Sec. R.S.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and seventeen members present.

Awards Recommended:—

Silver Gilt Banksian Medal.

To Messrs. W. Paul & Son, Paul's Nurseries, Waltham Cross, for a magnificent group of Roses in pots, and cut blooms, noteworthy being Her Majesty, Madame Gabriel Luizet, John Laing, Queen of Queens, St. George, Violette Bouyer, and Crimson Queen, a new H.P. of rich colour, and very fragrant.

To C. J. Partington, Esq., Heaton House, Cheshunt (Mr. B. Searing, gardener), for a splendid group of Masdevallias, excellently grown and well flowered. In the centre of the group was a magnificent specimen of Phalænopsis grandiflora, bearing fifty flowers.

Silver Banksian Medal.

To Messrs. H. Lane & Son, Great Berkhampstead, for an excellent group of Roses, the best varieties being Souvenir d'un Ami, Magna Charta, Etie Morel, Perfection de Mont Plaisir, Ulrich Brunner, and Madame Barney.

To Mr. C. Turner, Royal Nursery, Slough, for a group of well-flowered Indian Azaleas, medium-sized plants.

To Mr. J. Walker, Whitton, for a fine collection of the various kinds of Tulips, including a remarkably good selection of the curious Parrot varieties.

To Messrs. Barr & Son, Covent Garden, for a rich collection of Narcissi, principally of the poeticus varieties—ornatus and recurvus verus being especially fine; also a good collection of early Irises and Tulipa fulgens, retroflexa, and cornuta.

Bronze Banksian Medal.

To Messrs. J. Veitch & Sons, Chelsea, for an elegant group of Japanese ornamental-foliaged Maples.

First Class Certificate.

To Tuberous Begonia Duchess of Teck (votes, unanimous), from Messrs. J. Laing & Son, The Nurseries, Forest Hill. Very fine double flower, of a striking primrose colour.

To Tuberous Begonia Stanstead Gem (votes, unanimous), from Messrs. J. Laing & Son. A good double flower, of rich crimson colour.

To Crinum Kirki (votes, unanimous), from Sir G. Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross). A handsome species bearing white flowers, with a central line of bright rose down each of the segments.

To cut spikes of Cunonia capensis (votes, 7 for, 6 against), from the Duke of Northumberland, Sion House, Brentford (gardener, Mr. G. Wythes). Specimens from a tree in the conservatory at Sion about 30 feet high. The flowers are white and sweetly scented.

To Pink Her Majesty (votes, 10 for), from Mr. F. Hooper, The Nursery, Bath. A pure white, sweet-scented flower.

To Dracæna Doucetti (votes, 8 for, 2 against), from Messrs.

J. Veitch & Sons, Chelsea. Plant of graceful habit, narrow green leaves, margined and variegated with creamy-white.

To Rose (H.P.) Silver Queen (votes, unanimous), from Messrs. W. Paul & Son, Waltham Cross; bearing good-sized full blooms of a delicate salmon-pink.

Award of Merit.

To Pansy Golden Crown (votes, unanimous), from Mr. R. Dean, Ealing. A bedding variety, producing large flowers of a rich golden-yellow colour, with a deep purple blotch in the centre.

To Mimulus grandis (votes, unanimous), from Mr. R. Dean. Plant lifted from the open ground, and bearing flowers of a very bright crimson colour.

Other Exhibits.

Messrs. Ryder & Son, The Nursery, Sale, Manchester, sent a group of new varieties of Primula Sieboldi, viz., Maiden's Blush, Distinction, Champion, Beauty, and Snowflake, besides a varied selection of older varieties, forming a pleasing and bright display.

An interesting group of Hardy Flowers was sent from the Royal Gardens, Kew, consisting of several species of Ophrys, early Iris, Narcissus Bernardi, and Lotus peliorhynchus.

Messrs. Paul & Son, "Old" Nurseries, Cheshunt, sent an interesting collection of Alpine Plants—a pan of Trillium grandiflorum, in full flower, being noteworthy. Ramondia pyrenaica was also in good condition.

ORCHID COMMITTEE.

Dr. MAXWELL T. MASTERS, F.R.S., in the Chair, and eight members present.

The event of the meeting was the *début* of the beautiful hybrid raised by Mr. John Seden at the nurseries of Messrs. Jas. Veitch & Sons, by crossing Cattleya Mossiæ with Lælia (Brassavola) Digbyana. The plant exhibited bore a beautiful flower, quite distinct in form from any other known Orchid. Its flowers are six inches across, the sepals and petals clear pale-rose; the labellum, whose front lobe is almost circular, having the edge beautifully cut and fringed, the fringe being of the same tint as the petals. The throat of the labellum is citron-yellow, the median area pure white, with a streak of bright crimson in the middle. The plant was much admired by connoisseurs. Also from the collection of Messrs. Jas. Veitch & Son came a very neat and pretty Masdevallia, raised between M. caudata (Shuttleworthii) and M. Estradæ (M. caudata-Estradæ X). The flowers are mauve, with whitish nervures and yellow tails. From the gardens of Sir Trevor Lawrence, Bart., M.P., came a very interesting group, prominent among which were the rare Acineta maculata, with two fine pendulous sprays of French-white flowers mottled with rose; the rare yellow-flowered Dendrobium signatum, and the fine old D. tortile roseum; the singular Ponthieva maculata, and a splendid form of the yellow and red Odontoglossum excellens named "chrysomelanum."

From C. J. Partington, Esq., Heaton House, Cheshunt, was sent a brilliant group of scarlet and mauve varieties of Masdevallia Harryana, and a noble specimen of the white Moth Orchid (Phalænopsis grandiflora).

Messrs. Heath & Son, of Cheltenham, sent a curious form of Odontoglossum citrosmum, with buff sepals and petals; Mr. G. T. White, Drayton Villa, Winchmore Hill, a group of the elegant Brassia caudata; Messrs. John Laing & Son, of Forest Hill, a small plant of a nearly white variety of Cattleya Schroderæ; and Mr. Wm. Hall, of Tulse Hill, staged a very fine lot of cut flowers of Lælia purpurata and Cattleyas. Mr. Wm. Gordon, nurseryman, Twickenham, sent a very singular and pretty Japanese Calanthe, named C. Tracyana, with white flowers delicately tinged with pale bluish-lilac. R. J. Measures, Esq., of Camberwell, staged the rare Cypripedium Mastersianum and the hybrid C. Carrieri; and F. W. Moore, Esq., Curator Royal Botanic Gardens, Glasnevin, Dublin, exhibited the very rare and curious Saccolabium cerinum. F. G. Tautz, Esq., of Goldhawk Road, Shepherd's Bush, also sent two very fine species of Odontoglossum.

Awards Recommended:—

First Class Certificate.

To Lælia Digbyana-Mossiæ, from Messrs. Jas. Veitch & Son, Chelsea.

Botanical Certificate.

To Ponthieva maculata, Sir Trevor Lawrence, Bart., M.P.
To Acineta maculata, Sir Trevor Lawrence, Bart., M.P.
To Calanthe Tracyana, Mr. Wm. Gordon, Twickenham.
To Saccolabium cerinum, F. W. Moore, Esq., Glasnevin.
To Brassia caudata, Mr. T. White, Winchmore Hill.

Vote of Thanks.

To Sir Trevor Lawrence, Bart., M.P., for Group.

Silver Gilt Banksian Medal.

To C. J. Partington, Esq., Cheshunt, for group of Orchids.

At the conclusion of the meeting, Dr. Masters announced the death of the great orchidologist Professor H. G. Reichenbach, which met with expressions of sincere regret from the Committee. Dr. Masters and Mr. O'Brien were asked to confer as to a proper mode of expressing that regret.

FRUIT COMMITTEE.

T. F. RIVERS, Esq., in the Chair, and sixteen members present.

Mr. W. C. Leach, Albury Park Gardens, Guildford, sent large and highly coloured fruits of Strawberry La Grosse Sucrée, for which a vote of thanks was given.

Mr. R. Gilbert, Burghley Gardens, Stamford, sent examples of a Broccoli named Multum in Parvo, which was considered by the Committee to be identical with his Chou de Burghley.

Mr. J. George, 10 Victoria Road, Putney, sent samples of Wood-wool, for packing fruit in. Considered by the Committee too strongly scented for packing delicate fruit, and requested that Peaches, Strawberries, and similar fruit be packed in the material, and placed before the Committee.

From the Society's Gardens were sent four varieties of Radishes.

SCIENTIFIC COMMITTEE.

Dr. M. T. MASTERS in the Chair, and five members present.

Death of Prof. Reichenbach.—Dr. Masters called the attention of the Committee to the sad and somewhat sudden death of this eminent professor, and alluded to the great loss which the scientific and gardening worlds had sustained by it. He had been the director of the Botanic Gardens, Hamburg, since 1873.

Malformed Banksia.—Dr. Masters reported upon the specimen exhibited at the last meeting which he had received from Baron von Mueller. It appeared to consist of a mass of very small branches and leaves situate below the inflorescence, and covered with fine brown hairs. It was impossible to discover the cause, though some injury by insects in an early stage appeared to be most probable, when the plant was at rest; so that a supernumerary set of organs were thrown out in aid of transpiration, taking place at an unusual season, and which probably was in excess in consequence of the hypertrophied condition of the plant in the region in question.

Peach with Scale Insects (?).—A specimen badly infected with some insect closely resembling the mealy bug was received from Somerset. Mr. McLachlan stated that the insect in question was Pulvinaria vitis, which had probably strayed from the vines on to the peach trees.

Winter Moth, protection against.—Mr. Wilson observed that the plan recommended in the *Agricultural Gazette* of October 15, 1888, of making a ring of cart grease and Stockholm tar round the bases of fruit trees, though very effectual in catching large quantities of wingless females, had not prevented them from attacking the trees altogether, as the leaves on certain trees thus treated (as described at the Scientific Committee on January 15, 1889) were all going at the present date.

Skimmia Fortunei, Mast.—Dr. Masters exhibited a dried specimen of this hermaphrodite species, received from the I-chang Mountains, which completely corroborated the results of his investigations into the history of the Skimmias of our gardens, viz., that it was first introduced by Mr. Fortune from the nursery gardens of China; while the true S. japonica is a Japanese plant, and always diœcious; the "forms" oblata and fragrans being referable to the later plant. Hybrids between the two species are mostly, if not always, bisexual.

Photographs from Madeira.—Dr. Masters exhibited several photographs of plants from this island taken by Harcourt Powell, Esq., of Bury St. Edmunds, including one of Phytolacca dioica, as a large tree with a massive base of confluent roots, the usual form of this plant in Europe being a herb!

GRAND SUMMER SHOW, 1889.

The Grand Summer Show of the Society for 1889 was, by permission of the Treasurer and Masters of the Bench, held in the gardens of the Inner Temple on Thursday and Friday, May 30 and 31.

As regards the site on which it was held, as well as the special objects of the show, the following appeared in the official programme:—

> The Temple Gardens, in which the Summer Show of the Royal Horticultural Society is held, are "beautifully green retreats" in the midst of the noise and smoke of City life. Historically they are of great interest. Shakespeare has made them famous (Henry VI., Act ii., Scene 4) by his description of the origin of the Wars of the Roses. Plantagenet and his followers here gathered the Yorkist White Rose, while Somerset and his followers gathered the Lancastrian Red Rose. There are no Roses nowadays in the Temple Gardens (albeit they are celebrated for their annual display of Chrysanthemums) except when brought here, as on the present occasion, with other beautiful flowers to brighten early summer days in town by their beauty and fragrance.
>
> The aim of the Royal Horticultural Society on such an occcasion as this is to bring together rare and beautiful plants of the highest excellence as regards growth and culture, and at the same time give a vivid representation of the progress of horticultural art in this country.
>
> In the several tents will be found collections of Orchids, Roses, Azaleas, Palms, Ferns, Tulips, Violas, &c., contributed by members of the Royal Horticultural Society and their friends, supplemented by plants from several well-known horticultural establishments. Exhibits have also been sent by the market growers and salesmen from Covent Garden, illustrating the latest development of the culture of plants for decorative purposes, as well as vegetables and fruit.

The Summer Show of 1889 was acknowledged on all hands to have been one of the most successful of any held by the Society. Great credit was due to the generous assistance afforded to the Society by the officers of the Inner Temple, and, indeed, without such help it would have been impossible to have made suitable arrangements for the crowds of interested visitors who thronged the tents and grounds during the whole time the show was open.

It is impossible to give a detailed account of the whole of the exhibits. The following summary will, however, indicate the salient features of the collections:—

Orchids.—Of these it may be said that probably never before has such a large and varied gathering of these beautiful plants been made, except possibly at the Great Orchid Conference of the Royal Horticultural Society in 1885. At the Temple Show the whole of the exhibits throughout were characterised by a freshness and excellence hardly to be expected in plants which had to be conveyed long distances, while the number of large specimens gave an importance to the whole not to be attained by no matter how great a number of small plants. The manner of arranging them with Ferns and Palms made the most of the undoubted beauty the specimens possesed.

The grand group from Baron Schroder's gardens at The Dell, Egham, was, by common consent, adjudged to be the best feature of the show—indeed, it would be impossible to conceive, as it is difficult to describe, the magnificent group of large and rare specimens brought together in it. The centre plant was a grand specimen of Cymbidium Lowianum, and along the group the eye lighted on specimens of Cattleya Skinneri, four feet across; C. Skinneri alba; many C. Lawrenceana, with large heads of dark crimson flowers; the white C. Mossiæ Wagneri, with five flowers; C. M. alba, and C. Mendelii in every variety, the handsomest and most distinct being the richly coloured variety Rothschildianum. Large specimens of Cattleya Mossiæ and Lælia purpurata, too, were in this magnificent group, and a profusion of very fine varieties of Odontoglossum crispum. The Dendrobes were also prominent by the presence of some large specimens of D. thyrsiflorum; D. Lowianum, with a fine spray of bloom; D. Jamesianum, a single plant with twenty-five blooms, and many others.

Beside Baron Schroder's collection was an equally extensive display from the gardens of Sir Trevor Lawrence, Bart., M.P., the President of the Society, which contained a large number of very fine specimens, and also a goodly number of rare and curious plants of great botanical interest. Some fine specimens of Scarlet Anthurium aided greatly in showing up the Orchids, and a large plant of the spotted A. Scherzerianum well displayed its beauties. Some very fine Cattleyas, Lælias, and large masses of rare Cypripediums (one of C. Swanianum had thirteen flowers) characterised the group, and among the more rare or beautiful were Maxillaria Sanderiana, with large white and crimson flowers; Cattleya Reineckiana, a very delicately tinted C. Mossiæ var.; a grand mass of scarlet Masdevallia Harryana, with over forty flowers, M. Gelengiana ×; the brilliant M. H. regalis; the very handsome Disa racemosa, with four spikes of clear rose flowers; Spathoglottis aurea; a grand mass of Cattleya gigas Sanderiana, with two spikes of four large flowers each; the neat and fragrant Epidendrum raniferum; large pans of Cypripedium Godefroyæ and C. niveum; the pale blue

Acacallis cyanea, Anguloa Ruckeriana, Stelis muscifera, Lycaste Lawrenceana, and the curious insect-like Bolbophyllum barbigerum, with its fringed labellums continually in motion.

In the classes for competition both H. M. Pollett, Esq., of Fernside, Bickley, and A. H. Smee, Esq., of The Grange, Hackbridge, arranged very fine groups of handsome and rare plants; the Odontoglossums in Mr. Pollett's group being the leading feature, while the Cattleyas were more prominent in that of Mr. Smee.

The Duke of Marlborough, Blenheim, sent a group of large, well-flowered plants.

The Nurserymen's exhibits were, in quantity at least, not a whit behind the Amateurs'; indeed, the space occupied by the fine collection of Messrs. F. Sander & Co., of St. Albans, occupied the whole of one side of the centre stage from end to end, and occupied it well too. The plants, which were of excellent merit, were arranged in groups according to their genera, the whole being linked together by Odontoglossum crispum and Maidenhair Fern.

Mr. James Cypher, of Cheltenham, sent a very large collection. In this group the very fine Dendrobes were a distinguishing feature. Among others D. Jamesianum, having sixteen heads of bloom; D. Devonianum, literally covered with flowers; and D. Bensoniæ, D. densiflorum, D. thyrsiflorum, and others being equally fine.

From Messrs. Hugh Low & Co. came a good group, in which their fine Cypripedium bellatulum was prominent, one named C. b. excellens being heavily and richly spotted.

Grouped on the greensward, at the further end of the Orchid tent, Mr. B. S. Williams had a very interesting display of Orchids, arranged with fine pans of Sarracenias, Ferns, Palms, &c., most effective being the numerous tall spikes of white Calanthe veratrifolia and mauve C. masuca, with which the arrangement was studded.

Mr. G. T. White, of Winchmore Hill, staged a group composed largely of very fine forms of Cattleyas, some of which were of extraordinary merit.

Also in Messrs. J. Laing and Son's (of Forest Hill) group of plants arranged for effect, exhibited in class 1, were some very good examples of Orchids, which of late have formed quite a feature at that great Begonia establisment.

Plants and Cut Flowers.—From the nurseries of Messrs. J. Laing & Son there was a group of Caladiums of large size and of first-rate quality. About a score of plants were shown, and included specimens of the most valuable show varieties; there were also a good number of smaller plants, the whole making a capital display.

Roses were largely contributed by Messrs. Paul & Son, the Old Nurseries, Cheshunt, who were the only exhibitors of Roses in the competing classes, and they also had a number of plants in the miscellaneous class.

Messrs. W. Paul & Son, Waltham Cross, made a very fine display with cut blooms of Roses. There were specimens of the new varieties, Danmark, Corinna, and White Perle.

Messrs. H. Lane & Son, the Nurseries, Berkhampstead, showed a group of hardy Rhododendrons, about twenty-five plants of average dimensions, and freely flowered.

A group of well-grown moderately-sized specimen Caladiums was sent by W. Melles, Esq., Sewardstone Lodge, Chingford.

An attractive and showy exhibit was that of Messrs. R. Smith & Co., Worcester, who contributed a group of about five-and-twenty balloon-trained Clematis, bearing a profusion of flowers. The individual flowers were of large dimensions, and the colours bright.

A bank of varieties of Anthurium Scherzerianum, with a profusion of well-developed spathes, and also a specimen of A. Rothschildianum, were sent by Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E.

Tuberous Begonias from Messrs. H. Cannell & Sons, Swanley, Kent, made a fine show, the plants being vigorous and well flowered. Double and single varieties were shown, the former predominating.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, contributed an elegant and tastefully arranged group of the ornamental-leaved Japanese Maples.

The only general exhibitors of stove and greenhouse Ferns were Messrs. W. & J. Birkenhead, of Sale, Manchester, whose extensive collection comprised a remarkable number of varieties, many of them choice, though none were large. Todeas were in great variety, so also were Adiantums, of which Mariesii, Lawsonianum, ciliatum, regina, gracillimum, and the crumpled Luddemannianum were some of the most striking. Of Trichomanes there were crispatum, radicans, Andrewsii, radicans dissectum, &c. The collection in addition to Ferns included numerous Selaginellas in variety.

A brilliant and most interesting group of hardy Azaleas came from Mr. Anthony Waterer, of Knap Hill, Woking; good-sized plants in large pots, profusely flowered.

Cut Flowers.—Mr. T. S. Ware had a striking collection, which comprised herbaceous Pæonies, Papaver Orientale Brilliant, Blush Queen, and Prince of Orange, single Pyrethrums, Lupinus polyphyllus albus, Trollius europæus, &c.

Messrs. Paul had hardy Rhododendrons, varieties of Azalea mollis, such as Comte de Gomer, Ernest Becko, Alphonse Lavallée, &c.

Hardy alpine plants were only shown by Messrs. Paul & Son, and they had a very interesting collection; the mauve-flowered Bouvardia pyrenaica, Saxifragas ajugifolia and lantoscana, the pretty white-flowered Anemone montana, Thymus serpyllum, Iberis gibraltarica, and Erigeron aurantiacum were some of the prettiest features of the group.

Mr. T. S. Ware, Tottenham, sent a large and fine collection of Iris.

Of Violas there was but one collection of twelve sprays, which came from Mr. T. Parker, Kynaston Lodge, Harrow Weald.

In competition for the special prizes offered for Tulips by the trustees of the Turner Memorial Fund, there were three collections, and Mr. Samuel Barlow, J.P., Stakehill House, Castleton, Manchester, was placed first, with about eighty blooms, having some of a highly refined character.

Messrs. Barr & Son, King Street, Covent Garden, W.C., had a large collection of cut flowers, including Pæonies, Anenomes, Aquilegias, Pyrethrums, Dielytra spectabilis, &c.

Messrs. H. Cannell & Sons, nursurymen, Swanley, had a number of bunches of bedding Violas.

Messrs. Kelway & Son, nurserymen, Langport, had twenty-three boxes of cut flowers of Pæonies, Delphiniums, Pyrethrums (double and single), Iris, and cut flowers of hardy plants; a very fine lot, and a most valuable contribution to the exhibition.

Mr. Charles Turner, Royal Nursery, Slough, had some new large-flowering Pelargoniums.

In the open class for twenty-five Calceolarias Messrs. James Carter & Co., seed merchants, Holborn, and Messrs. H. Cannell & Sons exhibited very fine collections, the plants admirably grown and bloomed, and the flowers of fine quality.

Fruit.—Collections of Apples were the chief features here. Messrs. G. Bunyard & Co., Maidstone, staged about fifty dishes of well-kept clean fruits. Belle Pontoise, Paul's Winter Hawthornden, Tibbet's Incomparable, Cellini, Annie Elizabeth, Bismarck, Lord Derby, Lane's Prince Albert, Wellington, Calville Rouge, and Smart's Prince Arthur were in the finest condition.

A somewhat similar lot of about thirty dishes was sent by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, the best-conditioned samples being seen in Ottershaw Pippin, Annie Elizabeth, Hanwell Souring, Prince Albert, Sturmer Pippin, and Shepherd's Pearmain.

Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, Surrey, also had a collection of Apples, which were in a remarkably fine state. Wellington, Lane's Prince Albert, Ribston Pippin, Winter Colmar, and Bismarck may be named. In all about twenty dishes were in this collection.

Mr. F. W. Hume Dick, Esq., Thames Ditton House, Thames Ditton (gardener, Mr. W. Palmer), had a Melon named Thames Ditton Hero, a red-fleshed variety with thick skin; and half-a-dozen good-looking examples of Whillans' Seedling Melon were exhibited by Mr. Whillans, gardener to the Duke of Marlborough, Woodstock. It is a large fruit, yellow-netted and white-fleshed. Mr. C. Turner, Royal Nurseries, Slough, sent fruit of Lockie's Perfection Cucumber.

Market Classes.—Mr. W. Iceton, Granard Gardens, Roehampton, had a capital group of large-sized Palms, consisting of Kentia Fosteriana, K. Belmoreana, Cocos flexuosa, and C. plumosa, in fine condition, fronted with Dracæna Lindeni and Ophiopogon Jaburan (variegated), both of which were in remarkably fine condition.

The only exhibitor of a group for effect was Mr. H. B. May, of Edmonton. Mr. May's group included an edging and base of dwarf Ferns, from out of which arose numerous medium-sized but handsome and richly coloured Crotons and Dracænas, variegated Yuccas and Pandanus, also small Palms, Japanese Acers, Aralias, and other highly decorative plants.

Mr. May was also the sole exhibitor of Ferns in this section, having a large and most artistically arranged collection, which comprised many varieties, as, indeed, it included several hundreds of plants. The following comprise some of the most striking forms, and all were of high merit: Adiantum fragrantissimum, A. elegans, A. curvatum, A. Mariesii; Asplenium laxum pumilum, A. flaccidum, A. biforme; Gymnogramma argyrophylla; Nephrolepis tuberosa, N. exaltata, N. davallioides furcans; Pteris tricolor, P. aspericaulis, P major, P. cristata compacta; Davallia Mariesii; Leucostega immersa, and Actiniopteris radiata, the miniature fan-shaped Fern.

In the class for 50 show and decorative Pelargoniums, Mr. G. Braid, Winchmore Hill, N., had a group of finely grown and bloomed market stuff in 48-sized pots; bright and effective. Bouquets and wreaths were very pretty. Messrs. Perkins & Son, of Coventry, had a large and attractive exhibit of bouquets, wreaths, crosses, sprays, button-holes, baskets, &c.—not only showing the best workmanship, but set up in a way to set them off to the best advantage. Mr. Garcia, florist, Centre Row, Covent Garden, had a very fine wreath, cross, bouquet, and a cushion of roses made up in excellent style. Mr. G. Newman, florist, Bromley, Kent, had two bouquets, a wreath, and sprays.

A collection of market fruit and vegetables was shown by Mr. G. Monro, Covent Garden Market, in baskets as used for transit. These consisted of four lots of Guernsey-grown Melons, and of English produce there were Tomatoes, new Potatoes, black and white Grapes, Cucumbers, Peas, and Beans.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and fourteen members present.

Awards Recommended:—

First Class Certificate.

To Veronica Fairfieldi (votes, unanimous), from Mr. G. Thomson, Knap Hill, Woking. A hardy evergreen shrub bearing erect racemes of double flowers of a fleshy-white colour.

To Pæonia officinalis lobata (?) (votes, unanimous), from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. Large single Tulip-like flowers of a brilliant red colour.

To Struthiopteris pennsylvanica recurva (votes, unanimous), from Messrs. W. & J. Birkenhead, The Nursery, Sale, Manchester. A very handsome fern; the deeply toothed pinnæ slightly recurved.

To Tuberous Begonia (double) Rosebud (votes, 7 for, 5 against), from Messrs. H. Cannell & Sons, Swanley. A very fine variety. Flowers of good form and of a delicate pink colour.

Award of Merit.

To Tuberous Begonia (double) Sir W. C. Brookes (votes, unanimous), from Messrs. H. Cannell & Sons. Flowers bright orange-crimson.

To Tuberous Begonia (double) Lady Harriet Cavendish (votes, 10 for, 1 against), from Messrs. H. Cannell & Sons. Flowers delicate salmon-pink with white centre.

To hybrid Zonal Pelargonium Souvenir de Mirande (votes, 7 for, 3 against), from Messrs. H. Cannell & Sons. A very distinct and novel plant, the flowers white, edged with the brightest carmine.

To Pyrethrum (single) Albert Victor (votes, unanimous), from Messrs. Kelway & Son, The Nurseries, Langport, Somerset. Flowers very bright magenta-crimson, large broad petals.

To double Pæony (tree) Agenoria (votes, unanimous), from Messrs. Kelway & Son. Flowers white, tinted with pink and flushed with purple.

To double Pæony (tree) Leonard Kelway, from Messrs. Kelway & Son. Pale ground, flushed with purple.

To Caladium Raymond Lemoinier (votes, unanimous), from Messrs. J. Laing & Son, The Nurseries, Forest Hill. A handsome form, creamy in the centre, carmine, with dark-red ribs.

To Asplenium Filix-fœmina regale (Barnes) (votes, unanimous), from Messrs. W. & J. Birkenhead. One of the most beautiful varieties of this family.

To Pelargonium (Show) Indian Yellow (votes, unanimous), from E. B. Foster, Esq., Clewer Manor, Windsor. Lower petals pink, suffused with yellow; top petals dark, with broad edge of salmon-crimson.

Botanical Certificate.

To Aciphylla squarrosa (votes, unanimous), from Messrs. J. Veitch & Sons.

Other Exhibits.

Messrs. H. Low & Co., The Nurseries, Clapton, sent Pelargonium (decorative) Bush Hill Beauty. A fine bright-coloured sport from Madame Thibaut.

Messrs. James Carter & Co., 237–8 High Holborn, sent Mimulus moschatus compactus. A pretty form.

Mr. Apthorpe, Cambridge, sent Coleus Beauty of Cambridge. A bold-leaved variety, with dark spotting and a golden-green edge.

E. B. Foster, Esq., sent the following new Show Pelargoniums: Enthusiast, Exquisite, Jacobin, Curtius, Carmine, and Conspirator. All promising varieties.

Mr. R. Miller, Shoreham, sent Pelargonium (decorative) Pearl. A pure white sport from Madame Thibaut.

ORCHID COMMITTEE.

Sir TREVOR LAWRENCE, Bart., M.P., in the Chair, and eleven members present.

A dozen and a half species, more or less distinct, were submitted to the Committee; of these, the four forms of Cattleya labiata Mendelii pointedly exhibited the wide range of variety which Orchids of the same species afford. The fine specimen of C. Mendelii, "Mundy's var.," brought by Mr. Elphinstone from the gardens of E. Miller Mundy, Esq., Shipley Hall, Derby, as a florists' flower was very fine; but others very like it having been previously exhibited, it was passed, so also the two quaint varieties exhibited by Mr. G. T. White, of Winchmore Hill, and named C. M. Painted Lady, and C. M. albo-lineata; the former with mottled flowers, and the latter with a white stripe in the labellum. From Baron Schroder's garden, The Dell, Egham, came C. Mendelii Rothschildianum, which was pronounced one of the finest of its class; the flower being very large and perfect in form, the labellum finely expanded and coloured on the front lobe, of a bright rosy-crimson. This was considered worthy of a First Class Certificate. Three forms of

Lælia purpurata were also entered by as many exhibitors, but two of them, although distinct, were small-flowered; and the third, staged by Mr. Cypher, gardener to Mrs. General Studd, of Bath, although good, was not considered of sufficient merit to warrant the recognition of the Committee. All, however, were of use in comparison with the curious and beautiful supposed natural hybrid between L. purpurata and L. elegans which Baron Schroder exhibited as Lælia dellense, a most distinct plant, and well worthy of the First Class Certificate it received. As usual, a few plants were submitted for naming, or were found to be wrongly named; a Platyclinis sent as Dendrochilum uncatum the Secretary recommended to be sent to the Herbarium, Kew, to be correctly determined. A plant staged as Dendrobium primulinum album was altered to Dendrobium cretaceum, that being its proper name.

Awards Recommended:—

First Class Certificate.

To Lælia dellense, from Baron Schroder.

To Cattleya Mendelii Rothschildiana, from Baron Schroder.

To Cattleya Brymeriana, from F. Sander & Co.

Botanical Certificate.

To Oncidium hæmatochilum, from F. Sander & Co.

Votes of thanks to Mrs. General Studd, the Duke of Marlborough, E. Miller Mundy, Esq., W. F. Darnell, Esq., M. H. Voss, Esq., and A. H. Smee, Esq., for their exhibits—all by unanimous vote.

FRUIT COMMITTEE.

R. D. BLACKMORE, Esq., in the Chair, and seventeen members present.

Awards Recommended:—

First Class Certificate.

To Cucumber Lockie's Perfection, from Mr. C. Turner, Slough. A handsome variety, of fine colour, uniform growth, and good flavour.

Other Exhibits.

Mr. W. Palmer, Thames Ditton House, Thames Ditton, and Mr. Whillans, Blenheim Gardens, Woodstock, submitted seedling Melons, both of which were passed.

The other Awards made at the Temple Show were:

Silver Cups.

To Messrs. Paul & Son, for group of Roses.
To Messrs. R. Smith & Co., for group of Clematis.
To Messrs. F. Sander & Co., for group of Orchids.
To Mr. J. Cypher, for group of Orchids.
To Mr. B. S. Williams, for group of Orchids.
To Mr. G. T. White, for group of Orchids.
To F. G. Tautz, Esq., for group of Orchids.
To Mr. Wigan, for group of Orchids.
To Messrs. W. & J. Birkenhead, for collection of Ferns.
To Mr. C. Turner, for collection of Pelargoniums.
To Mr. A. Waterer, for group of Rhododendrons and Azaleas.
To Mr. Iceton, for group of Decorative Plants.

Medals.

To Baron Schroder, for group of Orchids (Veitch Memorial).
To Sir T. Lawrence, for group of Orchids (Veitch Memorial).

⁂ These medals were awarded in consequence of these gentlemen declining the ordinary awards to which they were entitled.

To Messrs. J. Laing & Sons, for group of Caladiums (Silver Flora).

To Messrs. Perkins, for Bouquets, &c. (Silver-gilt).

To Mr. T. S. Ware, for hardy Herbaceous Plants (Silver Flora).

To the Duke of Marlborough, for group of Orchids (Silver-gilt Flora).

To H. M. Pollett, Esq., for group of Orchids (Silver-gilt Flora).

To A. H. Smee, Esq., for group of Orchids (Silver Flora).

To C. J. Partington, Esq., for group of Orchids (Silver Banksian).

To Messrs. J. Veitch & Son, for group of Plants (Silver-gilt Flora).

To Messrs. W. Paul & Son, for Cut Flowers (Silver-gilt Flora).

To Messrs Kelway & Son, for Cut Flowers (Silver-gilt Flora).

To Messrs. Barr & Son, for Cut Flowers (Silver-gilt Flora).

To Mr. H. B. May, for group of Ferns (Silver-gilt Flora).

To Messrs. H. Low & Co., for group of Orchids (Silver-gilt Flora).

To Mr. G. Monro, for collection of Fruit, &c. (Silver-gilt Flora).

To Mrs. Hodgkins, for Skeletonised Leaves (Silver Flora).

To Messrs. J. Laing & Sons, for group of Begonias (Silver Flora).

To Messrs. H. Cannell & Sons, for Begonias (Silver Flora).

To Mr. Hollingworth (Silver Flora).

An interesting event at the Temple Show was the presentation by the President of the Society, on the suggestion of the Trustees of the Veitch Memorial Fund, of a Veitchian Medal to Mr. A. F. Barron, Superintendent of the Royal Horticultural Society's gardens at Chiswick. Sir Trevor Lawrence, in a few appropriate words, the significance of which will be appreciated by all who know the value of Mr. Barron's services to horticulture, made the presentation, and Dr. Masters, speaking as one of the Veitch Trustees, briefly thanked the President, and explained the motives which had actuated the Trustees in their proceedings. The Veitchian Medals are usually given for plants or fruits showing excellence of cultivation, but in awarding it on this occasion to a horticulturist, the Trustees and the Council of the Royal Horticultural Society followed precedent, Mr. Seden, the expert hybridist and famous cultivator, having received a similar award in 1885, on the occasion of the first Orchid Conference.

GENERAL MEETING.

JUNE 11, 1889.

Sir TREVOR LAWRENCE, Bart., M.P. (President R.H.S.), in the Chair.

ELECTIONS.

Fellows, 18.—G. R. Allis, Latimer Clark, Mrs. L. Clark, Mrs. C. E. Dowling, Mrs. F. J. Hand, Mrs. Hazeldine, J. Hill, W. G. Hodge, Rev. G. H. Manbey, Charles Merton, Dr. Merryweather, Miss F. Pike, H. Richardson, E. Rouse, C. H. Simmons, Mrs. Studd, F. Taylor, A. W. Warren.

Associate.—J. H. Phillips.

The following paper was read:—"Orchid Culture—past and present," by Mr. H. J. Veitch, F.L.S., F.R.H.S.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and thirteen members present.

Awards Recommended :—

Silver Gilt Banksian Medal.

To Messrs. Kelway & Son, The Nurseries, Langport, for a very fine bank (filling one side of the hall) of Pæonies, Pyrethrums, and other seasonable flowers. Amongst the single-flowered Pæonies, the most noteworthy kinds were—Aglaia, rich crimson; Mercury, rose; Florentine, pink; and Calliphon, rose. Of the doubles, the best were—Agenoria, French-white centre and pink-shaded outer segments; Baroness Schroder, fine pink guard petals; Lady F. Bramwell, rose; Miss Salway, pale yellow; and Maria Kelway, rose.

Pyrethrums (double): Empress Queen, blush; Magician, finely quilled, rose; Virgo, white, yellow centre; Ormonde, bright crimson; Leonard Kelway, rose; and Florentine, lilac-tinted. Delphiniums were well shown, the finest being those referred to in the list of certificated plants.

Besides the flowers above mentioned was a series of Iris.

Silver Banksian Medal.

To Messrs. Barr & Son, Covent Garden, for a fine collection of cut hardy flowers, comprising the beautiful Iris Boissieri and Sprekelia formosissima glauca, which has brighter flowers than the type. Conspicuous were the bunches of Iris orientalis, spuria, juncea, sibirica, and barbata types. Good flowers of the violet and white flowered Griffinia hyacinthina, Cyclobothra pulchella, Scilla peruviana, and Anemone fulgens.

Bronze Banksian Medal.

To Messrs. Paul & Son, Old Nurseries, Cheshunt, for a fine series of single and double Pyrethrums and Pæonies. A very beautiful blue-coloured Delphinium named Pierre Joigneaux was also shown, as well as pot plants of Paul's single white Rose—a charming variety.

To Mr. George Prince, Oxford, for some very fine Tea Roses (cut blooms), comprising Comtesse de Nadaillac, Princess of

Wales, Amazone, Princess Beatrice, The Bride, Catherine Mermet, La Boule d'Or, &c.

First Class Certificate.

To Rose (Tea) Souvenir S. A. Prince (votes, unanimous), from Mr. George Prince. A pure white sport from Souvenir d'un Ami, resembling Niphetos.

To Verbascum olympicum (votes, unanimous), from W. H. Loder, Esq., High Beeches, Crawley. A magnificent hardy border plant, with luxuriant, broad, woolly leaves, and large bright yellow flowers.

Award of Merit.

To Delphinium Regalia (votes, 5 for), from Messrs. Kelway & Son. Flowers very large, rich blue.

To Delphinium Orbit (votes, 8 for), from Messrs. Kelway & Son. Deep blue, white centre.

To Delphinium Faust (votes, 7 for), from Messrs. Kelway & Son. Rich violet, white centre.

To Delphinium Arditi (votes, 7 for), from Messrs. Kelway & Son. Very rich blue-purple.

To Pyrethrum (double-flowered) Pericles (votes, 7 for), from Messrs. Kelway & Son. Bright yellow—a compact and distinct variety.

To Pæony Princess Christian (votes, unanimous), from Messrs. Kelway & Son. Full French-white centre, and excellent guard florets.

To Pæony Princess Irene, from Messrs. Kelway & Son. French-white centre, and bold, handsome guard petals of a peculiarly beautiful rose tint.

To Tuberous Begonia Mrs. Chamberlain (votes, unanimous), from Messrs. J. Laing & Sons, Forest Hill. A beautiful single-flowered variety, bearing white and rose-coloured flowers.

To Fuchsia Dorothy Fry (votes, 6 for), from Mr. G. Fry, Lewisham. Flowers of good substance; long white corolla, sepals rich crimson.

Other Exhibits.

Mr. R. Dean, Ealing, sent hybrid Pinks, Aquilegias (beautifully coloured), very fine spikes of the Giant White Brompton Stock, and Mimulus moschatus Cloth of Gold—flowers rich yellow.

Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley, sent flowers of Rhododendron calophyllum, beautiful Bhotan variety with large white blossoms, and Buddleia globosa, the old Orange-ball tree.

ORCHID COMMITTEE.

Dr. M. T. Masters, F.R.S., in the Chair, and seven members present.

Mr. O'Brien stated that, as Secretary to the Orchid Committee, he had received from the Secretary of the Society a notification that the Council referred back to the Orchid Committee for reconsideration the First Class Certificate recommended for Odontoglossum egregium, and the Medal recommended for Lælia Digbyana-Mossiæ, at the meeting on May 11. After some discussion, the Committee decided that, seeing that now all the awards were qualified by the number of votes for and against being published, they could not alter their decision, but left the matter in the hands of the Council.

A full list of the Society's awards, written up to date by Mr. F. Sander, was placed on the table, and Mr. Pollett also stated that he had a similar list in printing. A vote of thanks was passed in each case.

At the meeting C. J. Partington, Esq., Heaton House, Cheshunt (gardener, Mr. B. Searing), staged a group of about a dozen fine plants of Epidendrum vitellinum majus; and E. Ellis, Esq., Manor House, Wallington (gardener, Mr. Glover), brought a specimen of Cattleya Mossiæ with about thirty flowers. Also, from the gardens of A. H. Smee, Esq., came a handsome and distinct light-coloured form of Cattleya Mossiæ, and a crimson-tipped variety of C. labiata Mendelii, both under varietal names. A discussion arose as to the proper course to be pursued, with a view to naming and rendering recognisable fine varietal forms of Orchids, and it was the opinion of the Committee that it is desirable that an Orchid Nomenclature Conference should be convened, to which Orchidists generally should be invited. It was also deemed advisable that steps should be taken to secure the identification of certificated plants, by means of drawings retained by the Society.

Mr. Ross, gardener to Sir George Macleay, brought from Pendell Court Gardens sprays of a Dendrobe named D. fimbriatum oculatum, but which the Secretary changed to D. clavatum, the flowers being of that species. Mr. Ross also exhibited Dendrobium Farmeri.

Votes of thanks were passed to the various exhibitors, but no certificates were awarded.

FRUIT COMMITTEE.

Sir C. W. Strickland, Bart., in the Chair, and eleven members present.

Mr. C. Ross, Welford Park Gardens, Newbury, sent a Seedling Melon named Standard, which was not quite ripe. The Committee expressed a desire to see it again.

Mr. J. Doughty, Cranbrook, sent a Seedling Melon, which was passed.

Mr. R. Dean, Ealing, sent good-sized, well-formed bulbs of Queen Onion, from seed sown in April 1888.

From the Society's Gardens were sent three varieties of Strawberries—Crescent Seedling (Vilmorin), quite ripe, King of the Earlies and Noble (Laxton), beginning to change colour. Examples of Benary's Buttercup Cabbage Lettuce (a promising variety) were also sent from the Gardens.

SCIENTIFIC COMMITTEE.

Dr. M. T. Masters in the Chair, and four members present.

Fritillary Bulbs dormant.—Mr. Morris read a communication from Mr. C. Packe, of Stretton Hall, Leicester, who in 1876 had planted two bulbs of F. Moggridgei (F. Burnati var. lutea, Reich. Icon. x. ccccxvii.). They did not come up till the present year—*i.e.* after a lapse of thirteen years; only one bore flowers. "The facts," he adds, "are absolutely certain, and it is quite impossible that they could have got in that place except from the corms that I originally planted there." Dr. Masters observed that bulbs had been known to retain their vitality for long periods, and gave as an illustration a certain field which, having been arable for at least forty years, was laid down to pasture, when the Bee Orchis appeared abundantly. Mr. Henslow added that a bulb of Urginea scilla, which had been in the museum of St. Bartholomew's Hospital for upwards of twelve years, threw out a leafy shoot of about 6 inches in length, and then died.

Lælia purpurata, dimerous.—Dr. Masters exhibited a drawing of this peculiarity, in which the normal trimerous arrangement was reduced to a dimerous one.

Rosa simplicifolia.—He also showed specimens of this remarkable Rose—a native of Persia or Afghanistan. Its peculiarities lay in the fact that the blades were simple, and in the absence of stipules, unless certain thorns near the base of the leaves should prove to be such. The flowers were metamorphosed, and would be reported upon by the exhibitor.

Hippeastrum (Amaryllis) double.—This had been pronounced to be unique, but Dr. Masters exhibited a photograph received from St. Kitts of a double specimen which had occurred there.

Torreya myristica.—Dr. Masters showed specimens of both male and female plants from the gardens of the Marchioness of Huntly, Orton, Peterborough.

Asarum, Species.—Mr. Lynch sent specimens of a new and fine species A. Hartwegi, *Wats.*; also the rare A. caudatum and the commoner A. canadense and A. europæum for comparison, all from the Botanic Gardens, Cambridge. A vote of thanks was given to him.

Waterglands (?) *in Ferns.*—A communication was received from Mr. Lowe giving an account of "some experiments on the formation of dew on the veins of young Ferns and on prothalli." Mr. Lowe observed that minute drops of dew appeared at the apex of each vein on the young fronds of Scolopendrium and Polystichum under the bellglass. The drops of water did not form on the prothalli or its first frondlets, but on these "there is a curious appearance of brilliant golden-looking rings that are scattered in all directions. This moisture is formed on the under side, and shines through the semi-transparent prothalli and first frondlets. It is apparently a circular drop, the circumference alone being apparent from the upper side." The phenomenon here described was presumably attributable to water pores, but was referred to Professor Ward for investigation.

Batrachospermum moniliforme.—Mr. Henslow exhibited this plant from Cherryhinton, Cambs.

Diplosis pyrivora (Riley).—Mr. McLachlan sent specimens of young Pears from Hastings attacked by this insect, which had burrowed through the interior, the Pears rotting in consequence. It appears to be of not very common occurrence.

GENERAL MEETING.

JUNE 25, 1889.

Sir CHARLES STRICKLAND, Bart., in the Chair.

ELECTIONS.

Fellows, 4.—Frank Cant, Mrs. P. Dalton, Lord Penzance, C. Strachey.

The following papers were read:—(1) "On Strawberry-growing for Profit," by Mr. George Bunyard, F.R.H.S. (2) "The Strawberry," by Mr. A. F. Barron, Superintendent Royal Horticultural Gardens, Chiswick.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and ten members present.

Awards Recommended:—

Silver Banksian Medal.

To Messrs. Kelway & Son, Langport, for a fine bank of flowers, consisting of double-flowered Pæonies, Delphiniums, and Gaillardias. Amongst the Pæonies the following varieties were the most noteworthy: Medusa, crimson; Lady Gwendoline Cecil, white; Miss Brice, rich pink; Comte de Gomer, rich crimson; and Leonie Calot, white, with a salmon tinge. Gaillardias: Duke of Portland, yellow; Jessica, rich yellow, with dark crimson centre; Prince of Naples, crimson, tipped with yellow; and Vivian Grey, yellow. Delphiniums: For some of the most noteworthy sorts see "Awards of Merit."

To Messrs. Barr & Son, Court Garden, for a good group of Irises, Lilies, and other hardy flowers. The following varieties of English Iris were noticeable: Mont Blanc, a beautiful white flower; Armida, rich lake colour; Lilacina, pale lilac; La Superba, blue and white lip, reddish standards—a handsome variety; and Grande Celeste, blue. Miscellaneous flowers consisted of Hemerocallis fulva, Ornithogalum pyramidalis, very beautiful; Gladiolus The Bride, Alstrœmeria aurantiaca, and Campanula Burghalti.

To Mr. W. Gordon, Twickenham, for an effective group of Lilies and Japanese Maples. L. platyphyllum, L. pictum, and L. rubro-vitlætum were shown amongst other varieties of L. auratum.

First Class Certificate.

To Lilium Martagon album (votes, 6 for), from Messrs. Barr & Son. A pure white variety of the well-known Turk's Cap Lily.

To Lilium Wallichi superbum (votes, unanimous), from Messrs. H. Low & Co., Clapton. A handsome Lily, with stems 6 feet in height, flowers 9 inches long, and 7 inches diameter at the mouth; yellow, fading to white at the tips of the petals.

Award of Merit.

To Delphinium Britannia (votes, 3 for, 2 against), from Messrs. Kelway & Son. Extremely rich dark blue, white centre.

To Delphinium The Shah (votes, unanimous), from Messrs. Kelway & Son. Deep purple and blue, very large and handsome.

To Delphinium Banquo (votes, unanimous), from Messrs. Kelway & Son. Very large; blue, edged with purple—a striking flower.

To Delphinium Sir Trevor Lawrence (votes, unanimous), from Messrs. Kelway & Son. Pale blue and mauve; distinct and pretty.

Other Exhibits.

The Rev. W. Wilks, Shirley Vicarage, Croydon, sent a charming group of Shirley Poppies, the flowers varying in colour from pure white, through pink, to the brightest scarlet.

Mr. R. Dean, Ealing, sent the same var. of Poppies, with flowers of promising seedling Carnations.

Messrs. James Veitch & Sons sent Andromeda speciosa var. pulverulenta and A. s. cassinefolia, two good shrubs, covered with small bell-like flowers; Styrax japonica, bearing a mass of Snowdrop-like flowers; and Leptospermum baccatum, a beautiful Australian shrub.

Messrs. William Paul & Son sent six boxes of cut Roses—fresh, beautiful, and in good variety.

Lord Penzance, Eashing Park, Godalming (Mr. G. Baskett, gardener), sent flowers of Sweet Briar crosses; an interesting exhibit.

Mr. G. Phippen, Reading, sent flowers of Sweet Williams, representing an excellent strain, and a wide range of colour, from pure white to deep crimson.

ORCHID COMMITTEE.

H. J. VEITCH, Esq., F.L.S., in the Chair, and six members present.

But few exhibits were presented at this meeting, and among them the Committee found but one worthy to recommend for First Class Certificate, and only one was passed for an Award of Merit, viz., Cattleya Gaskelliana (Cooke's var.), from Malcolm Cooke, Esq., Kingston Hill. The variety was of a soft rose tint, the sepals, petals, and labellum of the same hue, calling to mind the same colouring in Cattleya Lawrenceana var. unicolor. Other Cattleyas staged were C. Mendelii Hallæ, from Mr. Hall, of Tulse Hill, and C. Gaskelliana "Sunray" from Dr. Duke, The Glen, Lewisham, both forms being distinguished by slight lines of crimson on the tips of the petals. A plant of the curious Dendrobium stratiotes (previously certificated) was sent by M. M. Sherwood, Esq., Dunedin, Streatham Hill; and Mr. Ross brought from Pendell Court Gardens, under the name Orchis foliosa, three stout spikes of what may be the Madeira form of Orchis maculata, which merges into the previously named species—O. foliosa.

Two interesting garden hybrid Masdevallias were exhibited; the one from Messrs. James Veitch & Sons named M. Ellisiana X, the result of intercrossing M. Harryana and M. ignea, a very neat and distinct plant, the rather large flowers suffused with a bluish-purple tint. Messrs. Heath & Son's exhibit was M. Heathii X, which had yellowish flowers, but which was considered to be too near to some of the lower forms of M. Chelsonii X to render a new name desirable. Messrs. Veitch also staged their beautiful Zygocolax Leopardium X. Votes of thanks were passed for all the exhibits.

Awards Recommended :—

First Class Certificate.

To Masdevallia Ellisiana X, from Messrs. James Veitch & Son (votes, unanimous).

Award of Merit.

To Cattleya Gaskelliana (Cooke's var.), from Malcolm Cooke, Esq., Kingston Hill (votes, unanimous).

FRUIT COMMITTEE.

T. F. RIVERS, Esq., in the Chair, and fifteen members present.

Strawberries were shown in considerable quantity and in excellent condition at this meeting, Laxton's Noble being in specially fine form.

Awards Recommended:—

Cultural Commendation.

To Mr. T. Laxton, Bedford, for Strawberries Noble, Commander, and Pilot.

To Mr. J. Smith, Mentmore Gardens, Leighton Buzzard, for Strawberries Crown Prince, La Grosse Sucrée, and Vicomtesse Héricart de Thury.

To Mr. W. Allan, Gunton Park Gardens, Norwich, for very fine examples of Vicomtesse Héricart de Thury, Sir J. Paxton, James Veitch, Auguste Boisselet, and La Grosse Sucrée Strawberries.

To Mr. R. Gilbert, Burghley Gardens, Stamford, for fruits of Noble, A. F. Barron (very handsome), and Sir J. Paxton Strawberries.

Vote of Thanks.

To Mr. S. Ford, Leonardslee, Horsham, for fruits of Alpha and the Wild Strawberry.

To Mr. J. Watkins, Withington, Hereford, for fruits of an American Strawberry.

To Mr. G. Breese, Petworth, for four varieties of Strawberries.

To Messrs. G. Bunyard & Co., Maidstone, for fruits of James Veitch, Sir J. Paxton, and British Queen Strawberries.

To Mr. H. E. Rundle, Devonport, for a Seedling Strawberry named Peter the Great, which was not, however, considered of any particular merit.

Other Exhibits.

Mr. W. Palmer, Thames Ditton House, Thames Ditton, sent Melon Thames Ditton Hero. It was not in condition, and was therefore passed.

Mr. J. George, Putney, exhibited fruit packed in wood-wool. The Committee expressed an opinion that this would prove a suitable material for packing delicate fruit.

SCIENTIFIC COMMITTEE.

Dr. M. T. MASTERS in the Chair, and five other members present.

Rosa simplicifolia.—Dr. Masters further examined the anatomical structure of the stem and petiole of this exstipulate unifoliate species exhibited at the last meeting, and found that the fibro-vascular cords leading to the normal position of stipules were present, the stipules themselves being quite arrested. He commented upon the importance of extended observations on the anatomical structure of plants from a horticultural point of view—in that, for example, when the water cells are more abundant may it not be a cause that the plant appears to be more liable to be attacked by mildew ?

The Blight of Caterpillars.—Mr. McLachlan observed on the present superabundance of caterpillars that it is far less serious and much more local than is popularly supposed to be the case, some districts being apparently quite free from any excess. Remarks were made upon the popular errors associated with the vague term "blight," and the difficulty of persuading the unscientific world that plagues of various kinds of destructive animals had nothing whatever to do with atmospheric appearances of haze.

Amorphophallus Titanum.—Dr. Masters exhibited drawings of, and Mr. Morris described, this remarkable Aroid now flowering at Kew. It was received from Sumatra ten years ago, having been discovered by Dr. Beccari. The tuber weighed 56 lbs. at the beginning of this year, and grew at the rate of 4 inches a day. The spadix and stem together are 7 feet in height. The spathe was at first closely adpressed to the spadix, but on Friday morning, the 21st, it began to spread, and was fully expanded for one day only. By Saturday morning it again closed round the spadix. Like so many Aroids, the odour was most offensive. The male flowers are situated low down in a ring, and doubtless pollinated the females which were below them. Flies were observed at the base, but whether they assisted in the fertilisation or were laying eggs in the spadix could not be determined.

Pyrethrum attacked by Insects.—Dr. Müller showed specimens of leaves penetrated by a dipterous miner, probably a species of Phytomyza. It first appeared on the yellow Soleil d'Or, and thence spread to the red varieties. Mr. Morris compared its ravages with those of the Cemiostoma coffeellum, which had destroyed plantations of coffee in Dominica. The best way to destroy it was to pinch the leaves where the caterpillar was burrowing underneath.

Poa pratensis.—Dr. Masters showed specimens apparently of this species, which was reported to be covered with a gummy exudation. It did not appear to be present on the dried specimens sent, but it was suggested it might have been honeydew. Mr. Morris undertook to determine the species and to report further upon it.

Abies Nordmanniana.—Mr. Veitch sent a remarkable branch of this species with a large burr, with spreading branches of a yellowish hue. A discussion was raised as to the general cause or causes of such structures, and whether they were hereditary or could be propagated. The opinion entertained was that they were originally due to the puncture of some insect, but the difficulty lay in observing it at the time. Dr. Masters said he had on one occasion noticed a number of seedlings of Fir trees having such abnormal growths on the Simplon. It was proposed to subject the specimen to microscopic examination, and to test the powers of propagation. Varieties of Clanbrasilian Firs are known to be readily propagated which have thus originated.

Urtica dioica, monœcious.—Mr. Henslow exhibited specimens of the female plants of the common Stinging Nettle with male flowers at the extremities only of the female branches of the panicles, corroborating the generally received view that the occurrence of male organs is correlated with a reduced vigour.

EXTRACTS FROM THE PROCEEDINGS
OF THE
ROYAL HORTICULTURAL SOCIETY.

NATIONAL ROSE CONFERENCE.

A National Rose Conference was held in the Chiswick Gardens on July 2nd and 3rd, 1889.

The Conference was opened on the first day by the Very Rev. the Dean of Rochester, President of the Horticultural Section, and the following papers were read:—"The Pruning of Roses," by the Rev. A. Foster-Melliar, M.A.; "The Grouping of Garden Varieties," by Mr. W. Paul, F.L.S.; "On Stocks," by Mr. E. Mawley, Hon. Sec. N.R.S.; "Roses since 1860," by Mr. George Paul, F.R.H.S.; "Decorative Roses," by Mr. T. W. Girdlestone, M.A., F.L.S.; "Rosa polyantha as a Stock," by Mons. Viviand-Morel.

The Conference was opened on the second day by J. G. Baker, Esq., F.R.S., F.L.S., President of the Botanical Section, and the following papers were read:—"Modern Roses and Hybridisation," by the Right Hon. Lord Penzance; "A New Classification of Roses," by Professor François Crépin; "Rose Construction," by Dr. Masters, F.R.S., F.L.S.; "Note on Australian Roses," by Sir Ferd. von Mueller; "New Indian Roses," by Dr. George King, F.R.S., F.L.S.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and three members present.

Mr. W. Gordon, The Nurseries, Twickenham, sent Iris Princess Beatrice. This the Committee desired to see again when more fully developed.

FRUIT COMMITTEE.

JOHN LEE, Esq., in the Chair, and five members present.

Mr. Fuller, Idsworth Park Gardens, Horndean, sent Melon Idsworth Park Beauty. A good variety, but not superior to others in cultivation.

The Committee inspected the collection of Peas growing in the Gardens, and confirmed the certificate awarded last year to Pea Gradus (Laxton).

MEETING AT CHISWICK.

JULY 9, 1889.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and sixteen members present.

Awards Recommended :—

First Class Certificate.

To Iris lævigata White Banner (votes, unanimous), from Sir George Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross). A noble Japanese Iris, with a distinct lilac shading the broad falls.

To Rhodanthe maculata fl. pl. (votes, unanimous), from Messrs. James Veitch & Sons, Chelsea. A pretty rose-coloured double variety.

To Rhodanthe maculata alba (votes, unanimous), from Messrs. James Veitch & Sons, Chelsea. A fine double white variety.

To Lilium pardalinum var. luteum (votes, four for, three against), from Mr. T. S. Ware, Tottenham. Flowers rich yellow, spotted with deep chocolate.

To Retinospora filifera aurea (votes, unanimous), from Messrs. James Veitch & Sons. A golden variety of this well-known Conifer.

Award of Merit.

To Capsicum Coral Red (votes, unanimous), from Mr. Mortimer, nurseryman, Farnham. A promising ornamental variety, the result of a cross between C. Prince of Wales and

C. Tom Thumb; the plants bore deep red conical fruits of a decorative character.

To Carnation Mrs. Frank Watts (votes, unanimous), from Mr. T. S. Ware, Tottenham. An ivory-white double variety, with flowers of good shape and size.

To "strain" of double and single-flowered Canterbury Bell (Campanula Medium calycanthema) (votes, unanimous), from Messrs. J. Veitch & Sons. Colour of flowers varied and pretty.

To "strain" of Auricula-eyed Sweet-William (votes, unanimous), from Mr. J. Walker, Thame, Oxon. These were of various colours, the selfs being especially noteworthy.

Other Exhibits.

Messrs. James Veitch & Sons sent a mass of Notospartium Carmicheliæ, studded with pretty pink-coloured pea-like flowers; Chamæcyparis nutkaensis argentea nova, foliage tipped with a silvery colour; Hypericum Coris, a pretty pot plant, bearing small yellow flowers.

Mr. R. Brown, Handsworth, Birmingham, sent an interesting group of new Shrubby Calceolarias.

Mr. W. Gordon, Twickenham, sent Lilium auratum Purity, a pure white-flowered form of this Lily; also flowers of Japanese Irises (Iris lævigata).

Mr. H. Eckford, Wem, Salop, sent flowers of his well-known beautiful strain of Sweet Peas.

Mr. T. S. Ware, Tottenham, sent a group of Hardy Flowers, consisting chiefly of Lilies.

Mr. C. Turner, Slough, sent some blooms of Carnations, of high quality.

Mr. H. Little, The Barons, Twickenham, sent Tuberous Begonia Perfection; a fine double-flowered variety, much resembling Octavie.

ORCHID COMMITTEE.

Dr. M. T. Masters, F.R.S., in the Chair, and six members present.

Awards Recommended:—

First Class Certificate.

To Oncidium crispum grandiflorum (votes, four for, one against), from Mr. J. Charlesworth, Heaton, Bradford.

To Cattleya Mendelii Duchess of Marlborough, (votes, unanimous), from the Duke of Marlborough (gardener, Mr. Whellans).

Botanical Certificate.

To Physosiphon Loddigesii (votes, unanimous), from F. G. Tautz, Esq., Studley House, Shepherd's Bush (gardener, Mr. Cowley).

Other Exhibits.

F. G. Tautz, Esq., also sent a small but select group, in which the noteworthy plants were Phajus Humblotii, Lælia callistoglossa X, and Miltonia vexillaria superba.

Mr. Charlesworth exhibited typical Cattleya Warscewiczii (C. gigas), from Antioquia, much finer in colour than the form known as "Sanderiana," which he also exhibited.

FRUIT COMMITTEE.

T. F. Rivers, Esq., in the Chair, and eight members present.

Awards Recommended:—

First Class Certificate.

To Melon The Countess (votes, unanimous), from the Earl of Harrington (gardener, Mr. J. H. Goodacre), Elvaston Castle, Derby. A cross between American Musk and Cashmere. Fruit large, golden yellow, prettily netted, and of good quality.

To Cabbage Lettuce La Grosse Paresseuse (votes, unanimous), from Messrs. J. Veitch & Sons, Chelsea. A large, firm-hearting variety, crisp, and of excellent quality.

Cultural Commendation.

To Lord Suffield (gardener, Mr. W. Allan), Gunton Park, Norwich, for nine dishes of splendid Strawberries—Waterloo, The Countess, and Henri Nicaise being very fine.

To Messrs. T. Rivers & Son, Sawbridgeworth, for fine fruits of three varieties of Cherries, viz., Early Rivers—the finest of all Cherries—Bigarreau Ludwig, and Olivette.

Other Exhibits.

Messrs. Lovell & Sons, Driffield, Yorkshire, sent some remarkable fruiting trusses of Strawberry Filbert Pine; also a good dish of fruit.

Mr. C. Turner, Slough, sent Tomato Golden Perfection—a large and handsome variety. This was referred for trial in the Chiswick Gardens.

Mr. J. George, Putney, sent examples of "Wood wool," for packing fruit, that from the Poplar tree being considered the best.

From the Society's Gardens were sent fruits of a Seedling Strawberry (the result of a cross between Fragaria lucida and F. elatior, the Hautbois), of remarkably rich flavour.

The Committee subsequently examined the collections of Raspberries and Peas growing in the Gardens, when the following awards were recommended:—

First Class Certificate.

To Raspberry Hornet, from Messrs. T. Rivers & Son. An old but little known variety, bearing fine trusses of large firm fruit.

To Pea Consummate, from Mr. H. Eckford, Wem, Salop. A dwarf-growing variety, bearing large, deep-green pods, well filled, and of fine quality.

MEETING HELD AT CHISWICK.

July 18, 1889.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and eleven members present.

The Committee inspected the collections of Ivies, Stocks, and Hardy Flowering Annuals growing in the Gardens, and awarded several certificates. Particulars of these will appear in the Reports of Trials at the Chiswick Gardens for the year 1889.

GENERAL MEETING.

July 23, 1889.

Dr. Robert Hogg, F.L.S., in the Chair.

Elections.

Fellows, 16.—Henry Appleby, C. Blick, J. Butler, J. Charlesworth, R. V. Coleman, W. J. Dart, T. Freeman, Miss A. Hardcastle, Hon. W. F. Barton Massy-Mainwaring, F. Pitman, S. Pratt, P. Scott, M. R. Smith, Prof. S. H. Vines, F.R.S., E. T. Whitaker, Rev. A. Thorold Wood.

The following paper was read:—"On the Florist's Carnation," by Mr. Shirley Hibberd, F.R.H.S.

FLORAL COMMITTEE.

Shirley Hibberd, Esq., in the Chair, and ten members present.

Awards Recommended:—

Bronze Banksian Medal.

To Messrs. James Veitch & Sons, Chelsea, for an attractive group of hardy trees, shrubs, and flowers, consisting of Ulmus Montana Dampieri aurea, bright golden foliage; Astilbe Thunbergii, with white feathery inflorescence; Cornus sibirica Späthi; Ceanothus azureus albicans, densely flowered shoots, whitish flowers; and Quercus macrophylla, the fine American Oak, yielding in autumn rich tints of brown; also flowers of a beautiful hybrid Greenhouse Rhododendron.

To Mr. W. Rumsey, Waltham Cross, for cut blooms of Roses, of well-known sorts such as Ulrich Brunner, The Bride, Alfred Colomb, Niphetos, &c.

First Class Certificate.

To Cyrtomium falcatum Fensomi (votes, unanimous), from Mr. G. Fensom, Tottenham. A sturdy-growing, very deep green form of this well-known species, of great decorative value.

To Spiræa gigantea (votes, unanimous), from Messrs. Paul & Son, "Old" Nursery, Cheshunt. A stately plant, eight to nine feet in height, with a branching head of white inflorescence.

To Pteris serrulata plumosa (votes, unanimous), from Mr. W. Coleman, Swiss Cottage, Tunbridge Wells. A remarkable drooping form, the crested fronds hanging down a foot in length; a decidedly ornamental plant.

To Bouvardia Mrs. Robert Green (votes, unanimous), from Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton—bearing dense trusses of rosy-salmon flowers.

To Bignonia Cherere (votes, unanimous), from Sir George Macleay (gardener, Mr. F. Ross). An old and extremely effective conservatory climber, with deep crimson trumpet-shaped flowers.

Award of Merit.

To "strain" of Sweet Peas (votes, unanimous), from Mr. H. Eckford, Wem, Salop. In excellent variety, and of clear, beautiful colours.

Other Exhibits.

W. Roupell, Esq., Roupell Park, sent handsome and admirably grown plants of Polystichum angulare proliferum.

Messrs. Paul & Son, Cheshunt, sent an effective group of hardy herbaceous flowers.

Mr. A. Waterer, Woking, sent several very handsome varieties of Lilium auratum, raised from seed.

The Duke of Northumberland, Syon House, Brentford (gardener, Mr. G. Wythes), sent trusses of the well-known Clethra arborea, and a very large flower of Cereus hexagonus.

Messrs. H. Cannell & Sons, Swanley, sent some remarkably well-flowered plants of Begonias, raised from seed sown in January; also a stand of beautiful Verbenas, and blooms of the fine yellow Carnation Germania.

Messrs. J. Cheal & Sons, Crawley, sent an attractive collection of single and double-flowered Dahlias.

Mr. T. Laxton, Bedford, sent Sweet Peas in good variety with diversified colours.

ORCHID COMMITTEE.

Dr. M. T. MASTERS, F.R.S., in the Chair, and nine members present.

Awards Recommended:—

First Class Certificate.

To Sobralia xantholeuca alba (votes, unanimous), from Messrs. Jas. Veitch & Sons, Chelsea. A beautiful white variety, exhibiting the slightest trace of primrose yellow.

Botanical Certificate.

To Maxillaria fuscata, from Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bickerstaffe).

To Dendrobium revolutum, from Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bickerstaffe).

FRUIT COMMITTEE.

Sir C. W. Strickland, Bart., in the Chair, and twelve members present.

Awards Recommended:—

Silver Banksian Medal.

To Messrs. J. Veitch & Sons, Chelsea, for a collection of 112 varieties of Gooseberries, and shoots laden with fine fruit; several varieties of Currants, and early Apples and Pears.

Bronze Banksian Medal.

To Messrs. Paul & Son Cheshunt, for 44 varieties of Gooseberries, in fine condition, with examples of The Hornet Raspberry and Versailles White Currant.

To Messrs. Sutton & Sons, Reading, for a large and representative collection of Capsicums, in pots. These were remarkably well grown, the New Miniature, Tomato-shaped, and The Mammoth, long yellow, being the most conspicuous.

Award of Merit.

To Cucumber Allan's Favourite (votes, unanimous), from Lord Suffield (gardener, Mr. W. Allan), Gunton Park, Norwich. A large handsome fruit, raised from Telegraph and Blue Gown.

Other Exhibits.

Messrs. G. Bunyard & Co., Maidstone, sent several varieties of early Apples, including very beautiful examples of Red Astrachan grown under glass.

Mr. W. Allan, Norwich, sent a fine fruit of Melon Gunton Park Scarlet.

Mr. R. Dean, Ealing, sent examples of Early Snowball Cauliflower—a variety of the Erfurt.

Mr. Marriott, Skirbeck, Boston, sent examples of Pea Pride of Lincolnshire—a large, handsome variety, desired to be tried at Chiswick.

Messrs. Dicksons, Chester, sent examples of "Wood Wool," similar to examples shown at previous meetings.

SCIENTIFIC COMMITTEE.

Dr. M. T. Masters in the Chair, and nine members present.

Pinus austriaca injured.—Dr. Masters brought boughs of this tree with the young shoots dead, sent by Dr. Hogg. The tree, he reported, was planted eighteen years ago, but for the last two years it had been attacked by some malady, the affection proceeding rapidly downwards. The soil in which it grew was a strong sandy clay, but well drained. No insect could be detected upon the boughs by Mr. McLachlan. Mr. Veitch suggested the cold wet season, and probably an injurious subsoil, as being the causes. Professor Ward remarked that a sudden thaw chilling the roots would produce such an effect as the tree in question showed, or an east wind catching the side of a plantation would be a sufficient cause. The fungus Hysterium pini, which produces black spots, gives rise to a similar appearance, but the specimen showed scarcely any suspicion of this disease. Professor Ward observed that the effect of frost in April is often recognised by the bases of the leaf-shoots remaining green, in consequence of the protection afforded them by the sheathing scales.

Abies Nordmanniana.—Dr. Scott reported as follows upon the specimens exhibited at the last meeting: "It appears that the burr-like mass of branches with paler yellowish-green foliage is due to the presence of Æcidium elatinum. The mycelium of this fungus was abundant in the stunted leaves and in the abnormal portions of the stem, the development of the leaves being much affected. The diseased leaves show no differentiation of palisade and spongy parenchyma; few chlorophyll granules are developed, and there is a marked deficiency of starch. This last-mentioned fact is, no doubt, a cause of the imperfect development of the wood in the infected branches." Prof. Marshall Ward, who had also examined it, added that he discovered a few spermogonia, but no "æcidium" sporanges. It is the same uredinous fungus which causes the "Witch's brooms," and is mostly, if not invariably, confined to Abies, for Dr. Masters remarked that he had met with it, if it be the same species, in Pinus austriaca, P. Strobus, and P. sylvestris, and other species. Mr. Ward added that the fungus has a very remarkable stimulating effect on the cambium, and alters the botanical characters of the part affected, rendering the leaves annual. Mr. Michael had also examined the branch above referred to for the presence of any insects, and, although having nothing to do with the cause of the alteration of structure, he found a Tarsonymus, but no phytopti. It is a leaf-miner, and sometimes very destructive to trees at Turin. He also found eggs at the points of the shoots, which appeared to be those of some aphis.

Fern-prothallus with Water Pores (?).—With reference to the accumulation of water upon the prothalli mentioned at a previous meeting, Professor Ward thought it was quite conceivable that water might accumulate in the tracheids beneath the surface; but, on the other hand, it might have been merely dew-drops, the evidence being insufficient to furnish a more definite conclusion.

Ivy-leaved Pelargonium diseased.—Mr. Morris showed leaves of plants received from France and grown at Chiswick, badly diseased with a new species of Glœosporium. There was no remedy known, and complete destruction by burning was the only thing to be done.

Effects of Hail at Kew.—He also showed leaves of bedding-out plants, and mentioned a long list of others injured in various degrees by the hailstones, which had riddled and lacerated them on July 15. Aquatic plants suffered in the same way. Some of the genera most severely injured were Funkia, Nicotiana, Polygonum, Gourds, Podophyllum, Malvaceæ, Saxifraga peltata, Rheum, Boragineæ and Solanaceæ generally, and Gunnera scabra. Fortunately there was no damage to the glass-houses.

Peas diseased.—Mr. H. L. Pownall, Lenton Hall Gardens, Nottingham, forwarded specimens of Peas badly attacked by fungi. He reports that for years there have been patches of it, but this season it is very bad indeed. It was referred to Dr. Oliver for examination and report.

Plum Leaves blighted.—Mr. J. Lloyd-Bozward, of Worcester, had forwarded specimens to Kew, which Mr. Morris exhibited to the meeting. The blight had not been previously observed at Worcester. After the attack the leaves shrink up, wither and die, as if burnt, and the ends of the spring shoots, some 7 or 8 inches in length, die also. The leaves are mostly marked with discoloured patchess of a faint dusky red colour. Dr. Masters said that he had received similar specimens from various districts. No fungus could be detected by Dr. Cooke, and no insect appeared to be the cause; but Mr. Veitch and other members of the Committee had little doubt but that the affection was due to the wood having been badly ripened in the previous year.

The Red Rose of Lancaster.—Mr. W. G. Barron had sent specimens, which Mr. Morris exhibited, supposed by the sender to be this variety. It appeared, however, that in the opinion of experts it was a Damask Rose, and not the true Rose of Lancaster, which produces red and white blossoms on the same stem.

Rubus occidentalis. — Mr. Henslow exhibited fruiting branches of a plant originally received from Mr. Viccars Collyer, which he reported had come up quite accidentally in his garden. Mr. Henslow had cultivated it for two years. It flowered last year, the blossom being undistinguishable from those of a Raspberry, but bore no fruit. In the present season it has an abundance of fruit, densely clustered, quite black, each "drupel" having a tomentose base and provided with an embryo. It agrees in appearance with the Blackberry, but has ripened at the period of the Raspberry. The stem and foliage is tomentose, agreeing with the Raspberry, but the method of formation of the quinate leaves, as described by Mr. Henslow last year, is that of the Blackberry. The taste was thought by members of the Committee to indicate both parents. On examination it was found to be the North American species above mentioned.

Vegetable Marrow malformed.—Mr. Henslow exhibited a specimen to which a branch had become adherent about half the length of the fruit. Although it had been cut off three or four weeks ago, the branch had grown about 12 or 14 inches, and was producing flower buds at the expense of the tissues of the Marrow itself. It was accepted for the museum at University College.

Mint with Spiral Torsion.—Prof. Marshall Ward exhibited a specimen of this well-known occurrence in plants with opposite and decussate leaves. The leaves do not become alternate by any development of internodes, but are arranged in a secund manner by a twist through a semicircle.

Mint flowering.—Mr. Henslow observed that the common garden Mint is coming into blossom abundantly this season, and exhibited specimens in flower from Ealing. The shoot brought by Prof. Ward was also in bud. Mr. Henslow observed that at present the flowers are all female only, with rudimentary stamens—hence, like so many other Labiates, it will probably prove to be gyno-diœcious.

Water Culture of the Potato.—Dr. Masters remarked on some experiments made by his daughter with Potatoes grown over water that they had produced an abundance of roots, and even some flowers, but no attempt was made to develop any new tubers till after the fall of the flowers.

GENERAL MEETING.

AUGUST 13, 1889.

The Rev. W. WILKS, M.A. (Secretary R.H.S.), in the Chair.

ELECTIONS.

Fellows, 15.—Hon. Mrs. Barton, Henry T. Bird, J. T. Carr, W. Cuthbertson, R. M. Dawson, William Day, S. Fellows, William Gaymer, A. W. Hutton, W. B. Morle, H. Pain, Rev. Canon Phillpotts, G. W. Riley, H. Tate, jun.

The following paper was read:—"On Peaches and Nectarines," by Mr. T. Francis Rivers, F.R.H.S.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and fifteen members present.

Awards Recommended:—

Silver Banksian Medal.

To Messrs. J. Veitch & Sons, Chelsea, for an interesting collection of hardy ornamental-foliaged shrubs and trees, comprising a number of forms of Acer palmatum septemlobum, and also Oaks of various species; Stephandra flexuosa, Shepherdia argentea, Nandina domestica, Cornus mas elegantissima, Eucryphia pinnatifolia (in flower), Berberis vulgaris atropurpurea, Alnus glutinosa imperialis, Styrax Obassia, S. japonica (in fruit), and Eleagnus macrophylla. Cut blooms of hybrid Greenhouse Rhododendrons in beautiful condition were also shown.

To Mr. T. S. Ware, Tottenham, for a collection of Cactus, Single, and Pompon Dahlias, Gaillardias, &c., comprising amongst Cactus Dahlias: Mrs. G. Reid, lilac-mauve; Empress of India, deep shaded crimson; and Honoria, bright yellow. Amongst Singles: W. C. Harvey; Gertie Bywater, dark crimson; and Negress, deep crimson. Amongst Pompons: Isabel, scarlet;

Fairy Tales, pale yellow. Other plants shown were Lilium auratum, Iceland Poppies, and Summer-flowering Chrysanthemums.

To Messrs. H. Cannell & Sons, Swanley, for a good collection of Begonias, the most noteworthy varieties being Mrs. Litchie, Mrs. Cayzer, and A. Blanc. Amongst miscellaneous plants in this group were the old Rochea falcata, in beautiful condition, and a bright crimson-leaved Coleus named Vesuvius.

To Messrs. Paul & Sons, Cheshunt, for a miscellaneous group, consisting of Cut Roses, shown (though so late in the season) in good condition, the principal sorts being La France, A. Colomb, Dr. Andry, Duke of Teck, Baroness Rothschild, A. K. Williams, Madame Eugène Verdier, and Captain Christy. The pretty and interesting Polyantha Roses comprised such sorts as Mignonette, Golden Fairy, Pernet, Annie Maria de Montravel, Red Pet, Gloire de Polyantha, and Madame Alégatière (Jules Margottin X R. polyantha). Other noteworthy subjects were Gypsophila paniculata, Eryngium planum, Montbretia Pottsi, Phloxes in variety, Rudbeckia purpurea, Aconitum autumnale, and a variety of spotted hybrid Gladioli.

Bronze Banksian Medal.

To Messrs. J. Cheal & Sons, Crawley, for a collection of Dahlias, containing some good single-flowered varieties—Mrs. Bowman, magenta; J. Scobie, bright yellow; Formosa, bright red; and Alba perfecta, white. Amongst the Cactus varieties the best were the old Juarezi; Panther, scarlet; and H. Patrick, white. Some pretty Pompons were also shown.

First Class Certificate.

To Pteris tremula Smithiana (votes, seven for, six against), from Messrs. R. Smith & Co., The Nurseries, Worcester. A beautiful variety of this well-known and handsome Fern, with much divided and heavily crested fronds.

To Nepenthes Curtisii superba (votes, unanimous), from Messrs. J. Veitch & Sons, Chelsea. A richly coloured form of this distinct species, the pitchers differing from those of the type in being much darker in colour, and in having a broad purplish rim.

To Gladiolus nanceianus President Carnot, from M. Lemoine, Nancy, France. A new and beautiful type, with tall spikes of flowers, having well-expanded segments—the outer ones rich rose-crimson; the inner being crimson, with large cream-coloured blotch reticulated with rose.

Award of Merit.

To Gladiolus Hippolyta (votes, unanimous), from Mr. J. S. Whall, Worksop. A charming variety, with large flesh-coloured flowers marked with crimson on the lower sepals.

To Dahlia (single) W. C. Harvey (votes, unanimous), from Mr. T. S. Ware, The Nurseries, Tottenham. A very fine variety, flowers of medium size, perfect in shape, and of a light buff colour, with crimson band round the disc.

To Chrysanthemum (summer-flowering) Golden Shah (votes, unanimous), from Mr. T. S. Ware. A dwarf-growing Pompon bearing medium-sized rich yellow flowers.

To Nægelia (Gesnera) pyramidale (votes, nine for, five against), from Messrs. H. Cannell & Sons, The Nurseries, Swanley. A neat-growing and free-flowering variety, with flowers of fine form; the limb bright crimson, shaded crimson round the throat; the tube orange.

To Begonia (double) Mrs. Litchie (*nem. con.*), from Messrs. H. Cannell & Sons. A distinct variety, bearing pink-coloured flowers.

To Begonia (double) Mrs. Cayzer (*nem. con.*), from Messrs. H. Cannell & Sons; bearing large full flowers, bright buff, tinted salmon.

To Begonia (double) A. Blanc (*nem. con.*), from Messrs. Cannell & Sons. A plant of excellent habit, flowers rich carmine-red.

To Rhododendron Duchess of Fife (votes, seven for, five against), from Messrs. J. Veitch & Sons, Chelsea. A distinct and handsome hybrid; the flowers large and finely formed; colour cream, with pale red flush.

To Dahlia (single) James Scobie (votes, unanimous), from Messrs. J. Cheal & Sons, The Nurseries, Crawley. A fine variety, having large flowers of excellent form; colour buff yellow, flaked with scarlet.

To Gladiolus Alsace (votes, unanimous), from Messrs. J. Veitch & Sons. A beautiful variety; flowers of medium size—the outer segment pale yellow, the inner segments lemon-yellow, with dark blotch at base.

To Gladiolus André Chenier (votes, unanimous), from Messrs. J. Veitch & Sons. Distinct and handsome; flowers of average size—the outer segments pink, with dark blotch; the inner segments purple, tipped with yellow.

To Pelargonium Duke of Fife (votes, unanimous), from Messrs. Hawkins & Bennett, The Nurseries, Twickenham. A distinct double-flowered Zonal, of neat growth, and bearing a profusion of bright scarlet flowers.

Botanical Certificate.

To Tritonia securigera (votes, unanimous), from Mr. J. O'Brien, Harrow-on-the-Hill; an interesting Cape bulb; growth slender, bearing medium-sized flowers of orange-red colour.

Other Exhibits.

Mr. R. Dean, Ealing, sent Stock Mauve Beauty—a very double variety; African Marigolds in variety; and Lobelia Heckfield Favourite—flowers deep blue with white eye.

Sir George Macleay, Pendell Court, Bletchingley (gardener Mr. F. Ross), sent cut specimens of Physianthus albens, bearing a profusion of white flowers.

Mons. Baron-Veillard, Orleans, France, and Messrs. G. Jackman & Son, Woking, sent Clematis Mme. Baron-Veillard; flowers of a dull mauve colour—distinct.

Mr. Otto Putz, Quedlinburg, Germany, sent flowers of Zinnias in variety, grown in the Society's Gardens. These were remarkable for their large size, fine form, and rich colours—a strain which was admired. From the Society's Gardens were also sent examples of African Marigold, Dwarf Orange, from Messrs. Dippe Brothers and Messrs. Barr & Son.

Messrs. Daniels Brothers, Norwich, sent Godetia Duke of Fife and G. Duchess of Fife, which were recommended to be sent to the Society's Gardens for trial.

Mr. J. Green, East Dereham, Norfolk, sent Coleus Rainbow a distinct sort—green, with a broad yellow edge.

Messrs. J. Laing & Sons, Forest Hill, sent Anthurium Laingii, with a white spathe.

FRUIT COMMITTEE.

R. D. Blackmore, Esq., in the Chair, and eighteen members present.

Award Recommended:—

Bronze Banksian Medal.

To the English Apple and Fruit Growing Company, 1 Duke Street, Grosvenor Square, for baskets of well-grown examples of Tomatoes—Livingstone's Prolific, Conqueror, Optimus, and Ham Green Favourite.

First Class Certificate.

To Melon Basing Park (votes, unanimous), from Mr. W. Smythe, Basing Park, Alton; a medium-sized, well-netted, green-fleshed fruit of fine quality.

To Tomato Chiswick Hybrid—subsequently named "The Conference"—a cross between Perfection and Horsford's Prelude; a round smooth fruit of medium size and fine colour. From the Society's Gardens.

Cultural Commendation.

To W. Roupell, Esq., Harvey Lodge, Roupell Park, S.W., for very fine fruits of Irish Peach, Red Astrachan, White Juneating, and Red Juneating Apples.

Other Exhibits.

Seedling Melons were shown by Mr. W. Allan, Gunton Park, Norwich; Mr. F. Nicholson, Upleatham, Yorks; Mr. W. H. Divers, Ketton Hall, Stamford; and Mr. J. Brutton, Yeovil.

Messrs. J. Veitch & Sons, Chelsea, sent a collection of fruit, consisting of well-ripened examples of Early Orleans, The Czar, Frogmore Orleans, De Montfort, and several other Plums. Good fruits of Domino, Ecklinville, Irish Peach, Hawthornden, Duchess of Oldenburg, Oslin, and Red Astrachan Apples; and Jargonelle and Beurré Giffard Pears.

Messrs. J. Cheal & Sons, Crawley, sent several dishes of Apples, noteworthy varieties being Alfriston, Irish Peach, Professor, White Astrachan, and Manks' Codlin.

H. Balderson, Esq., Corner Hall, Hemel Hempstead, sent a seedling Grape, resembling in appearance Muscat Hambro'. It was desired to be seen again.

Messrs. H. Lane & Son, Great Berkhampstead, sent bunches of the American Strawberry Grape.

From the Society's Gardens was sent a collection of remarkably well-grown Tomatoes in pots, and several dishes of fruit, the varieties comprising Horsford's Prelude, Wiles's Prolific, President Cleveland, Golden Queen, Perfection, Lorillard, New Early, Yellow Cherry, and several others.

MEETING AT CHISWICK.

AUGUST 20, 1889.

FRUIT COMMITTEE.

Dr. HOGG, F.L.S., in the Chair, and seven members present.

Mr. Ross, Welford Park Gardens, Newbury, sent three varieties of Melons: (*a*) Standard, a scarlet-fleshed variety; (*b*) Colonel Grenfell, green-fleshed; and (*c*) Duchess of Fife, green-fleshed. They were all more or less deficient in flavour.

Mr. Prall, Brenchley, sent a seedling Apple greatly resembling Beauty of Bath.

The Committee examined the series of Potatoes under experimental cultivation in the Gardens. In all there were 108 sorts. The following varieties, proving good croppers and of fine appearance, were selected and submitted to the test of cooking, viz.: The Canon, Vegetarian, Bedfont Purple, and Purple Beauty (Dean); Crown Jewel (Fletcher); Irishman (Kaine); Edgcote Early (Wiles); Ellington's Prolific (Ellington); Satisfaction and Early Victor (Oakshott & Millard); Rural New Yorker (Burpee & Co,); Tacoma (Bliss); and Débutante (Ross).

Under this ordeal most of the varieties proved watery and deficient in quality. No Certificates were awarded, the Committee deciding to try them all again later in the season.

Some thirty seedling varieties, received from Mr. Bliss, New York, were examined, which were remarkable for their extraordinary cropping qualities and uniform great size, but were considered somewhat rough for general culture.

August 27, 1889.

FLORAL COMMITTEE.

Shirley Hibberd, Esq., in the Chair, and fourteen members present.

Awards Recommended:—

Silver Gilt Banksian Medal.

To Messrs. Kelway & Son, Langport, for a superb collection of some 200 spikes of Gladioli, together with Show and Pompon Dahlias, Gaillardias, &c.

Silver Banksian Medal.

To Mr. T. S. Ware, Tottenham, for a beautiful collection of Pompon and Single Dahlias, and cut flowers of Lilium auratum rubro-vittatum, L. speciosum-rubrum, L. pseudo-tigrinum; Tigridia conchiflora, Iceland Poppies in variety, Gaillardias, &c.

To Mr. H. B. May, Edmonton, for a group of Crotons (well-coloured), Ferns, and Bouvardias, including B. President Cleveland, B. elegans, B. Mrs. R. Green, B. Jasminoides, and double varieties.

Bronze Banksian Medal.

To Messrs. Paul & Son, Cheshunt, for cut specimens of Trees and Shrubs, hardy Herbaceous Plants, &c. Amongst these Paul's Cheshunt Scarlet Rose, a hybrid China of a remarkably fine character, was noteworthy.

To Malcolm S. Cooke, Esq., Kingston Hill, for a pretty collection of Lælia elegans.

First Class Certificate.

To Taxus adpressa variegata (votes, seven for, two against), from Messrs. Fisher, Son, & Sibray, Sheffield. The young shoots were entirely diffused with silvery yellow.

To Pteris serrulata densa (votes, unanimous), from Mr. H. B. May, Edmonton. Very striking and distinct, of dense habit, with most elegantly cut pinnæ.

To Carludovica palmifolia (votes, unanimous), from Mr. B. S. Williams, Holloway. A free-growing and handsome plant, very useful for decorative purposes.

To Sarracenia decora (votes, unanimous), from Mr. B. S.

Williams. A dwarf-growing species, quite distinct from S. psittacina, having much more colour on the pitchers.

To Satyrium carneum var. roseum (votes, unanimous), from Mr. T. S. Ware, Tottenham. A hardy Orchid, the flowers tinted with rose.

To Watsonia rosea (votes, unanimous), from Mr. T. S. Ware, Tottenham. An old, but very handsome, Cape bulb, with elegant spikes of rose-coloured flowers.

Award of Merit.

To Dahlia (Cactus) Marchioness of Bute (votes, unanimous), from Mr. J. T. West, Brentwood. A seedling from the scarlet Dahlia Juarezi, pale ground edged with pink and purple.

To Bouvardia Hogarth fl. pl. (votes, unanimous), from Mr. H. B. May, Edmonton. The flowers were very double, and of the same colour as the single variety.

To Hollyhock Delicata (votes, unanimous), from Messrs. Webb & Brand, Saffron Walden. Pale ground, suffused with soft fleshy pink. A full and symmetrical flower.

To Rhododendron Ophelia (votes, unanimous), from Messrs. J. Veitch & Sons, Chelsea. A greenhouse variety, with large and finely formed creamy-buff flowers, margined with soft pinkish-mauve.

To Chrysanthemum (Pompon) Maud Pitcher (votes, unanimous), from Mr. G. Stevens, Putney. A charming bronze sport from the yellow-flowered Précocité; remarkably free flowering.

To Papaver nudicaule sulphureum (votes, six for, two against), from Mr. T. S. Ware, Tottenham. A full sulphur-coloured variety.

To Dahlia (single) F. L. Temple (votes, six for, three against), from Mr. T. S. Ware, Tottenham. A large form of the well-known Dahlia Paragon.

To Gladiolus Duchess of Fife (votes, unanimous), from Messrs. Kelway & Son, Langport. Beautifully feathered on the stout segments with bright purplish-crimson.

To Gladiolus Vulso (votes, five for, four against), from Messrs. Kelway & Son. Pale carmine-rose, with white throat.

To Dahlia (Cactus) Panthea (votes, unanimous). from Messrs. Keynes, Williams & Co., Salisbury. Bright orange-salmon; very distinct and novel.

To Dahlia (Show) Crimson Globe (votes, unanimous), from Messrs. Keynes, Williams, & Co. A highly refined bright crimson self.

To Dahlia (Show) John Hickling (votes, unanimous), from Messrs. Keynes, Williams & Co. A superb yellow self, of the finest quality.

To Dahlia (Show) Reliance (votes, unanimous), from Messrs. Keynes, Williams & Co. Yellow ground, flushed with purple.

To Dahlia (Show) Alice Emily (votes, unanimous), from Messrs. Keynes, Williams & Co. Orange-yellow, slightly tinged with cinnamon.

Commended.

A fine "strain" of Dwarf German Scabious, from Mr. R. Dean, Ealing.

Other Exhibits.

Messrs. James Carter & Co., High Holborn, sent an interesting collection of new Queen Asters, including white, copper-red, crimson, light blue, dark blue, and rose-coloured.

Mr. R. Dean, Ealing, sent Victoria Ruby Aster.

Mr. F. T. Dranfield, Valentines, Ilford, sent an interesting and varied collection of Bedding Violas, cut blooms.

Mr. G. S. P. Harris, Orpington, Kent, sent good blooms of Show and Fancy Dahlias.

Messrs. James Veitch & Sons sent a stand of beautiful Greenhouse Rhododendrons.

Mr. James O'Brien, Harrow-on-the-Hill, sent Crocosma maculata; the flowers somewhat larger than those of the ordinary type, the three inner segments heavily spotted with reddish brown.

ORCHID COMMITTEE.

Dr. MAXWELL T. MASTERS, F.R.S., in the Chair, and seven members present.

Awards Recommended:—

Bronze Banksian Medal.

To Malcolm S. Cooke, Esq., Kingston Hill (gardener, Mr. Cullimore), for a group of Lælia elegans. Some of the plants represented the type, while others, called Cooke's variety, possessed a large and finer-coloured lip.

First Class Certificate.

To Lælia elegans, Duchess (votes, unanimous), from the Duke of Marlborough, Blenheim (gardener, Mr. Whellans).

To Lælia elegans, Cooke's variety (votes, unanimous), from Malcolm S. Cooke, Esq., Kingston Hill (gardener, Mr. Cullimore).

To Angræcum Chailluanum (votes, unanimous), from F. G. Tautz, Esq., Studley House, Hammersmith (gardener, Mr. Cowley).

Botanical Certificate.

To Catasetum tabulare, var. læve, from Mr. B. S. Williams, Upper Holloway.

Other Exhibits.

Messrs. James Veitch & Son sent Phajus philippinensis, a very curious plant of similar habit of growth to the P. Humblotii, and which will probably prove of sufficient horticultural merit to cause it to be generally grown. The present specimen wanted strength, and the Committee desired to see it again.

Mr. Hollington, of Forty Hill, Enfield, staged a fine form of the old Lælia crispa.

FRUIT COMMITTEE.

R. D. Blackmore, Esq., in the Chair, and eleven members present.

Awards Recommended :—

Bronze Medal.

To Messrs. Veitch & Sons, Chelsea, for a collection of Plums, comprising good examples of the following varieties: Kirke's, Golden Drop, Belgian Purple, Victoria, Frogmore, Lawson's Golden Gage, Goliath, Large Black Imperial, Washington, Denniston's Superb, Sultan, Mitchelson's, and Duke of Edinburgh.

Cultural Commendation.

To A. H. Smee, Esq. (gardener, Mr. W. Cummins), for a collection of 15 varieties of finely grown early Apples—Lord Grosvenor, Duchess of Oldenburg, and Williams's Favourite being noteworthy.

Other Exhibits.

W. Roupell, Esq., Harvey Lodge, Roupell Park, sent examples of an early Russian Apple, and of Pear Marguerite.

Messrs. Cheal & Sons, nurserymen, Crawley, sent Pear Summer Compote.

Mr. J. Church, Melford Hall, Suffolk, sent some fine examples of the old Bell, or Bull's-nose Capsicum.

Seedling Melons were shown by Messrs. E. Holman, H. Denton, J. Spong, and C. Brook.

MEETING HELD AT CHISWICK.

SEPTEMBER 5, 1889.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and four members present.

The Committee inspected the collections of Asters, Single and Cactus Dahlias, Heliotropes, Marigolds, and Zonal Pelargoniums grown in the Gardens, awarding certificates to the most meritorious varieties. An account of these will appear in the Report of the Cultural Operations at the Chiswick Gardens for the year 1890.

SEPTEMBER 17, 1889.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and sixteen members present.

Awards Recommended:—

Silver Banksian Medal.

To Messrs. Paul & Son, "Old" Nurseries, Cheshunt, for a beautiful collection of Cactus, Pompon, Show, and Single Dahlias, very effectively arranged.

Bronze Banksian Medal.

To Mr. J. T. West, Cornwalls, Brentwood, for an interesting collection of Show Dahlias, containing blooms of great excellence.

To Messrs. Rawlings Brothers, florists, Romford, for an extensive collection of Show Dahlias, of their own raising.

To Messrs. J. Laing & Sons, The Nurseries, Forest Hill, for an excellent collection of Show, Fancy, and other Dahlias.

To Messrs. James Veitch & Sons, Chelsea, for an attractive group of plants—most noticeable being some well-flowered greenhouse Rhododendrons, javanico-jasminiflorum hybrids; a mass of Hydrangea paniculata grandiflora in flower; Ceanothus azureus Gloire de Versailles, a fine variety with pale blue flowers; and Daphniphyllum glaucescens, a Japanese evergreen shrub of great value.

To Messrs. W. Paul & Son, Paul's Nurseries, Waltham Cross, for a large collection of Cut Roses; the blooms in a high state of development for so late in the season.

First Class Certificate.

To Watsonia iridifolia O'Brieni (votes, unanimous), from Mr. James O'Brien, Harrow-on-the-Hill. A very beautiful variety of this fine Cape bulb, bearing large pure white flowers.

Award of Merit.

To Coleus Cleopatra (*nem. con.*), from Messrs. Hewett & Co., of Birmingham. A handsome variety with large cordate leaves, variously coloured—bronze, red, and orange.

To Dahlia (Single) Hester Dorothea (votes, unanimous), from T. W. Girdlestone, Esq., Sunningdale. Flowers of medium size, well-formed; the colour rich velvety-crimson.

To Dahlia (Show) Conquest (votes, unanimous), from Mr. G. S. P. Harris, Orpington, Kent. A fine flower of a rich purplish-rose colour.

To Dahlia (Single) Gulielma (votes, unanimous), from Messrs. J. Cheal & Sons, Crawley. Flowers of medium size and good form; the ray-florets pure white, with an amber band on each side.

To Dahlia (Fancy) Marmion (votes, unanimous), from Mr. C. Turner, Slough. Flowers of good form, and striped with crimson on a yellow ground.

To Dahlia (Cactus) Centenary (votes, unanimous), from Mr. J. T. West, Brentwood. Flower large, full, and of a brilliant crimson colour.

To Chrysanthemum (Japanese) Annie Stevens (votes, unanimous), from Mr. G. Stevens, The Nursery, Putney. Flowers rather large, with ivory-white narrow florets, and canary-yellow centres.

To "strain" of Dianthus Snowflake (votes, unanimous), from Mr. R. Dean. Flowers large, double, and of the purest white.

To "strain" of crimson, striped and yellow French Marigolds, from Messrs. Dobbie & Co., Rothesay. Very fine.

Cultural Commendation.

To Sir George Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross), for Aphelandra cristata, bearing large spikes of scarlet flowers.

Other Exhibits.

Sir George Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross), sent cut specimens of Hibiscus pedunculatus, a very distinct species, bearing large pink flowers.

Mr. R. Dean, Ealing, sent plants of Marigold aurea floribunda, a neat-growing useful type, bearing bright yellow flowers.

Messrs. J. Laing & Sons, Forest Hill, sent a pretty group of early-flowering Chrysanthemums.

ORCHID COMMITTEE.

Dr. Maxwell T. Masters, F.R.S., in the Chair, and six members present.

Awards Recommended :—

First Class Certificate.

To Cattleya Miss Harris X (votes, unanimous), from Miss Harris, The Grange, Lamberhurst. This plant was the result of crossing Cattleya labiata Mossiæ and Cattleya Schilleriana, the former being the seed-bearer. The flowers were similar to C. Schilleriana, but larger. They had a rosy-crimson labellum, exhibiting in the wavy and slightly-fringed edge evident traces of C. labiata Mossiæ.

To Miltonia vexillaria Leopoldi (votes, unanimous), from Baron Schroder, The Dell, Egham (gardener, Mr. Ballantine). This was the highest-coloured of the large forms of Miltonia vexillaria, and somewhat resembled the variety known as M. v. superba.

Botanical Certificate.

To Masdevallia vespertilio, from A. H. Smee, Esq., The Grange, Wallington (gardener, Mr. Cummins).

To Disperis Fanniniæ, from A. H. Smee, Esq., The Grange, Wallington (gardener, Mr. Cummins). A terrestrial Orchid from the Cape, possibly one of the first species of the genus exhibited in Europe.

FRUIT COMMITTEE.

Sir C. W. Strickland, Bart., in the Chair, and seventeen members present.

Awards Recommended :—

Silver Banksian Medal.

To Messrs. Wm. Paul & Son, Waltham Cross, for a large well-grown collection of Apples and Pears—over 100 dishes. Amongst the Apples were noted fine examples of Beauty of Kent, Washington, Tom Putt, Peasgood's Nonesuch, Tower of Glamis, Warner's King, Stirling Castle, Belle Dubois, &c.; and amongst the Pears—Souvenir du Congrès, Williams' Bon Chrétien, Maréchal de la Cour, and Louise Bonne of Jersey.

To W. Roupell, Esq., for a collection of remarkably well-grown examples of Frontignan and Muscat Grapes grown in pots. The following were specially noted: Canon Hall Muscat, Muscat of Hungary (which in Hungary is termed the small Muscat of Alexandria), Ascot Frontignan, Chasselas Musqué, Dr. Hogg, and White Frontignan.

Bronze Banksian Medal.

To Messrs. John Laing & Son, Forest Hill, for a collection of 46 dishes of Apples of considerable merit.

First Class Certificate.

To Grape Diamant Traube (votes, unanimous), from W. Roupell, Esq. A medium-sized ovate greenish-white Sweetwater, pleasant in flavour, and a desirable variety to cultivate as a white companion to the Black Hambro'. This variety was received from M. Leroy, of Angers, about twenty-five years ago, and grown in the Society's collection at Chiswick.

Cultural Commendation.

To Mr. C. Edwards, Newton House, Bickley, for finely grown examples of Ecklinville Seedling Apple.

Other Exhibits.

Examples of the Melon Pear (Solanum guatemalense) were sent from the Society's gardens. The fruits are ovate in form, from 3 to 4 inches long, of a pale orange colour, slightly streaked with purple. The taste somewhat resembles a mixture of Cucumber and Tomato. This fruit has lately been brought into notice in America and in this country, but it appears to possess no merit whatever.

Messrs. Paul & Son, Cheshunt, sent a collection of 25 varieties of Apples; and Mr. C. Ross, Newbury, sent a fine handsome seedling Pear, somewhat resembling Doyenné Boussoch.

Seedling Melons were exhibited by Mr. J. Bruton, of Yeovil; Mr. F. Taylor, Cheltenham; and by Col. Turbeville, Glamorgan (gardener, Mr. G. Hawkins).

VEGETABLE CONFERENCE, 1889.

A Vegetable Conference and Exhibition was held at the Chiswick Gardens on September 24, 25, and 26, 1889.

The proceedings were as follows:—

FIRST DAY, SEPTEMBER 24.

Examination of Exhibits, and Selection of Varieties by the Committees.

SECOND DAY, SEPTEMBER 25.

Opening Address by the Chairman, H. J. Veitch, Esq., F.L.S.

"On the Cultivation of Asparagus," by Mr. Shirley Hibberd.

"On the Production of Winter Salads (particularly Lettuces)," by Mr. Norman, Hatfield.

THIRD DAY, SEPTEMBER 26.

"On Food of Vegetables," by Mr. J. Wright.

"On the Improvement amongst Peas during the last Quarter of a Century," by Mr. T. Laxton, Bedford.

"On the Improvement amongst Potatoes during the last Quarter of a Century," by Mr. A. Dean, Bedfont.

"How to Maintain a Supply of Vegetables for Family Consumption throughout the year," by Mr. J. Smith, Mentmore.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and ten members present.

Awards Recommended :—

Silver Banksian Medal.

To Messrs. H. Cannell & Sons, Swanley, for a beautiful group of single and double-flowered Begonias. The plants were raised from seed sown in February last.

First Class Certificate.

To Cyrtanthus sanguineus (votes, unanimous), from Messrs. James Veitch & Sons, Chelsea. A very distinct species; flowers bright red.

Award of Merit.

To greenhouse hybrid Rhododendron Virgil (votes, unanimous), from Messrs. James Veitch & Sons, Chelsea—bearing large trusses of rich creamy-yellow flowers.

To Begonia (single) Mrs. A. Moens (votes, unanimous), from Messrs. H. Cannell & Sons, Swanley. A large and fine flower, orange-red colour.

To Begonia (single) Frank Beadle (votes, unanimous), from Messrs. H. Cannell & Sons. A bright scarlet flower, of good substance.

Other Exhibits.

Messrs. T. & J. Rogers, Fern Bank Nursery, Lodsworth, Petworth, sent a seedling Fern from Adiantum macrophyllum, which the Committee expressed a desire to see again.

Messrs. H. Cannell & Sons sent Pelargonium Black Vesuvius, stated to be a sport from Vesuvius. It was referred to Chiswick for trial.

Mr. R. Maher, Yattendon Court Gardens, Newbury, sent six interesting sports from Cactus Dahlia, Mrs. Hawkins.

FRUIT COMMITTEE.

Harry J. Veitch, Esq., F.L.S., in the Chair, and twenty members present.

Awards Recommended :—

Silver Banksian Medal.

To Messrs. H. Lane & Son, Berkhampstead, for five large and magnificently grown Vines in pots, heavily laden with handsome fruit, the varieties being Alicante, Black Hambro', Foster's Seedling, and Gros Maroc. This was considered a highly meritorious exhibit.

Other Exhibits.

Mr. Poynter, The Nurseries, Taunton, sent examples of Pears Léonce de Lambertaye, Madame Hutin, and Madame Buonaparte.

Mr. C. Edwards, Bickley, sent a collection of well-grown Apples. Mr. A. Stevens, Henley-on-Thames, sent a seedling Pear.

Seedling Melons were shown by Mr. Wm. Palmer, Kingston, and Mr. Miller, Ruxley Lodge, Esher. These it was desired should be shown again earlier in the season.

Sir J. W. Pease, Bart. (gardener, Mr. McIndoe), Hutton Hall, Guisborough, sent examples of Hutton Hall Sprouts, a very large variety of considerable merit. Specimens were cooked and considered very good. On examination of the plants growing in the Gardens, the Committee, however, considered the characteristics of the variety not as yet sufficiently fixed to allow an award to be made to it.

GENERAL MEETING.

October 8, 1889.

T. F. Rivers, Esq., in the Chair.

Elections.

Fellows, 36.—W. Allingham, W. J. Baker, W. Lonsdale Barraclough, Mrs. A. Berry, S. Bewsher, H. Bohn, H. Briscoe-Ironside, J. G. Clabburn, Lady Cunliffe, P. H. Davis, W. J. Deighton, C. Foster, A. Gorton, H. A. Grindrod, G. Halse, N. G. Hill, Hon. Mrs. Egerton Holmes, J. Hunter, J. K. Jackson, E. E. Leigh, Miss Lonsdale, Mrs. Lovett, J. Mantell, W. E. Martin, J. McMeekin, W. S. Nicholes, W. J. Nutting, A. S. Read, Frank Smith, W. Smith, Mrs. Turner, Capt. W. H. Tylden-Pattenson, C. Warner, junr., J. S. Whiter, Mrs. Wright, E. G. Wrigley.

The following paper was read :—" On the Useful and Ornamental Coniferous Plants cultivated in this Country," by Mr. William Coleman, F.R.H.S.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and fifteen members present.

Awards Recommended :—

Silver Banksian Medal.

To Mr. B. S. Williams, The Nurseries, Upper Holloway, for a beautiful group of Sarracenias and Crotons, together with several interesting Orchids—Oncidium ornithorhynchum album and some Cypripediums being noteworthy.

To Messrs. James Veitch & Sons, Chelsea, for an admirable group of Retinosporas, the specimens being from 2 to 7 feet in height, and comprising about two dozen of the best varieties.

Bronze Banksian Medal.

To Messrs. Paul & Sons, Cheshunt, for a fine collection of small specimen Junipers and Cupressus in pots.

To Messrs. W. Paul & Son, Waltham Cross, for a large representative group of green and variegated Yews.

First Class Certificate.

To Anthurium leodense (votes, unanimous), from Sir T. Lawrence, Bart., M.P. A hybrid between A. Veitchii and A. Andreanum, with spathes of a strikingly rich red colour, the spadix large and white.

Award of Merit.

To Rhododendron Aspasia (votes, unanimous), from Messrs. James Veitch & Sons, Chelsea, bearing compact trusses of pure yellow flowers.

To Chrysanthemum (Japanese) Dorie (votes, unanimous), from Messrs. H. Cannell & Sons. Flowers rich golden yellow.

Botanical Certificate.

To Ceropegia Sandersoni (votes, unanimous), from Sir George Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross). A peculiar trailing plant; flowers spotted with green.

Cultural Commendation.

To Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. White), for a pretty group of Anthuriums in flower—Andreanum and others of that type being principally represented.

Other Exhibits.

The Duke of Northumberland (gardener, Mr. G. Wythes), Syon House, Brentford, sent specimens of Jambosa australis, a New Holland plant introduced in 1800; a useful subject for pot culture.

Messrs. H. Cannell & Sons sent a good collection of Chrysanthemum blooms. The Committee expressed a desire to see Chrysanthemum O. J. Quintas again.

Mr. R. Dean, Ealing, sent plants of Pyrethrum uliginosum in 48-size pots, plants that had been raised from layers.

Messrs. Hawkins & Bennett sent twelve fine blooms of Chrysanthemum Mrs. H. Hawkins.

Messrs. Davis & Jones, nurserymen, Camberwell, sent a collection of Chrysanthemum blooms, containing fine flowers of La Vierge.

From the Society's Gardens were sent several plants of double Balsams (Vilmorin's strain) and plants of Lilliput Asters (Dammann). A useful late-flowering class of Asters, with bright colours, crimson and rose predominating.

ORCHID COMMITTEE.

H. J. Veitch, Esq., F.L.S., in the Chair, and six members present.

Awards Recommended:—

Silver Banksian Medal.

To Mr. B. S. Williams, Upper Holloway, for a group of Orchids, consisting of Cypripedium cardinale, C. œnanthum and C. Ashburtoniæ. Also Cattleya velutina and the chaste little Oncidium ornithorhynchum album, certificated November 11, 1884.

First Class Certificate.

To Lælia autumnalis alba (votes, unanimous), from Messrs. James Veitch & Sons, Chelsea.

To Lælia præstans alba (votes, unanimous), from Mr. William Bull, Chelsea.

Both these fine white-flowered varieties of coloured species attracted considerable attention. Their appearance was all the more unexpected, as both Lælia autumnalis and Lælia pumila (to which L. præstans is closely allied) have been imported for more than fifty years, and no white forms of either have appeared before.

To Cypripedium picturatum X, from Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking (gardener, Mr. White). The flower is 4 inches across, resembling those of C. Spicerianum in form. The lip is pale dull crimson-lake, slightly mottled; the petals pale brown, with lines of deeper colour. The dorsal sepal is triangular, white, heavily veined with crimson.

Award of Merit.

To Cattleya Warscewiczii Hardyana, Wrigley's sub-variety, from E. G. Wrigley, Esq., Howick House, Preston.

To Lycaste plana, var. Cumminsi, from A. H. Smee, Esq., The Grange, Wallington (gardener, Mr. Cummins).

Other Exhibits.

One of the most attractive exhibits was a grand inflorescence of the fine blue Vanda cœrulea, from the Right Hon. Lord Rothschild, Tring Park (gardener, Mr. E. Hill). The flowers were of very large size, and deep blue colour on the prominent veins. The spaces between were sky-blue.

FRUIT COMMITTEE.

Sir C. W. Strickland, Bart., in the Chair, and fifteen members present.

Awards Recommended:—

Silver Gilt Banksian Medal.

To Lady Howard de Walden, Mote Park, Maidstone (gardener, Mr. C. Davis), for an exceptionally fine collection of Pears and Apples, and some excellent Grapes. Amongst the Pears specially noteworthy were: Doyenné du Comice, Pitmaston Duchess, Fondante de Cuerne, Durondeau, Triomphe de Vienne, Marie Louise, Marie Benoist, &c. Apples: Sandringham, Cox's Pomona, Prince Albert, Lord Derby, Hoary Morning, Alfriston, Warner's King, Winter Hawthornden, Gloria Mundi, Cox's Orange Pippin, Ribston Pippin, &c.

To Messrs. James Veitch & Sons, Chelsea, for a magnificent collection of fruit, comprising 370 dishes of Apples and 84 dishes of Pears. Amongst Apples the most noteworthy varieties were:

Cox's Pomona, Baumann's Red Reinette, Emperor Alexander, Flower of Kent, Lady Henniker, Landsberger Reinette, The Sandringham, Cornish Aromatic, Warner's King, Nonesuch, Cockle's Pippin, Blenheim Pippin, Ringer, King of the Pippins, Seaton House, Beauty of Hants, and Stirling Castle. Amongst the Pears: Alexandre Lambre, Beurré d'Amanlis, Beurré Clairgeau, Madame Treyve, Doyenné Boussoch, Beurré Superfin, Marie Louise, Pitmaston Duchess, and Knight's Monarch.

Silver Flora.

To Messrs. J. Cheal & Sons, The Nurseries, Crawley, for a collection of Apples and Pears, high coloured and well grown. Amongst Apples, conspicuous were: Bismarck, Warner's King, Emperor Alexander, Court Pendu Plat, Cellini, The Queen, King of Pippins, Stirling Castle, Alfriston, Duchess of Oldenburg, Tower of Glamis, and the Forge Apple—a highly coloured variety, very valuable for cottagers. It was commended by the Committee for its hardiness and fruitfulness. Pears: Doyenné du Comice, Doyenné Boussoch, Pitmaston Duchess, Thompson's, Baltet Père, Grosse Calebasse, and Catillac.

Bronze Banksian Medal.

To W. Roupell, Esq., Harvey Lodge, Roupell Park, S.W., for 50 dishes of Apples, comprising good examples of Annie Elizabeth, Peasgood's Nonesuch, Emperor Alexander, Lord Suffield, Stirling Castle, and The Sandringham.

Mr. Roupell also contributed bunches of Early Black Frontignan Grape, ripened out of doors, and of Diamant Traube from under glass.

Award of Merit.

To Apple Kane's Seedling, from Mr. G. Dyke, Southwell, Notts. A distinct early variety of fine quality, said to be equally useful for the kitchen and table. Medium size, conical; skin pale yellow, shaded with red.

Cultural Commendation.

To Messrs. William Paul & Son, The Nurseries, Waltham Cross, for fine fruits of Apple Mabbot's Pearmain.

To Messrs. James Veitch & Sons, for a fruiting pot-plant of Fig Negro Largo.

Other Exhibits.

Messrs. W. & J. Brown, nurserymen, Stamford, sent three varieties of Seedling Apples, which were requested to be kept at Chiswick.

Mr. Gow, Reading, sent Apple John Harris, somewhat resembling, but inferior to, King of the Pippins.

Mr. R. Maher, Yattendon Court Gardens, Newbury, sent fruits of Tomato Golden Perfection, which were over-ripe; a large yellow variety.

Mr. A. Dean, Bedfont, sent a sample of Preserve made from Vegetable Marrows.

GENERAL MEETING.

OCTOBER 22, 1889.

T. FRANCIS RIVERS, Esq., in the Chair.

ELECTIONS.

Fellows, 10.—Rev. Charles G. Anderson, Walter F. H. Blandford, B.A., Mrs. Brice, James E. Burrell, John Chivers, Mrs. Christie, Mrs. R. Codd, George Evans, Hugh Goodman Roberts, and George Taber.

FLORAL COMMITTEE.

JOHN FRASER, Esq., in the Chair, and eleven members present.

Awards Recommended:—

Sivler Banksian Medal.

To Messrs. James Veitch & Sons, Chelsea, for a very interesting and handsome group of plants suitable for table decoration, comprising over sixty different kinds, notably Ferns in variety—Nephrolepis Duffi, Adiantum, and Pteris; various Palms, elegant Crotons, narrow-leaved Dracænas, Carex viridis, C. variegata (certificated), Aralias, Ficus Parcelli, ornamental-leaved Begonias, &c.

Bronze Banksian Medal.

To Messrs. J. Veitch & Sons for an effectively arranged collection of richly coloured Autumn foliage, suitable for decorative purposes, including Acers (in variety), Rhus Osbeckii, Quercus lancifolia, Cornus sanguinea, Pyrus arbutifolia, &c.

To Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, for a collection of Ferns, containing well-grown plants of Adiantum Reginæ, A. scutum roseum, Pteris cretica nobilis, Gymnogramma Alstoni, G. schizophylla gloriosa, &c.

First Class Certificate.

To Carex variegata (votes, unanimous), from Messrs. J. Veitch & Sons. A useful plant for table decoration; leaves grass-like, and with a broad white midrib.

To Pteris leptophylla princeps (votes, six for, five against), from Mr. H. B. May. A bold, robust-growing kind, of graceful habit.

Award of Merit.

To Chrysanthemum (Anemone) M. Charles Lebocqz (votes, unanimous), from Messrs. H. Cannell & Sons, Swanley. A charming variety; guard florets of a buff-yellow colour.

To Chrysanthemum (Japanese) Eynsford White (votes unanimous), from Messrs. H. Cannell & Sons—bearing handsome pure white flowers.

To Chrysanthemum (Anemone) M. Pankoucke (votes, unanimous), from Messrs. H. Cannell & Sons. Deep brownish-red flowers.

To Chrysanthemum (Japanese-Anemone) Nelson (votes, unanimous), from Messrs. H. Cannell & Sons. A good addition to its class; flowers of a dull rose colour.

The same flower was also shown by Mr. G. Stevens, nurseryman, Putney, and received a similar award.

To Chrysanthemum (Japanese-reflexed) W. Neville (votes, unanimous), from Messrs. H. Cannell & Sons. Colour, buff-yellow.

To Chrysanthemum (Japanese) Stanstead Surprise (votes, five for, one against), from Messrs. John Laing & Sons, The Nurseries, Forest Hill. An English-raised seedling; flowers of a cherry-rose colour.

Other Exhibits.

Mr. G. Wythes, Syon House Gardens, Brentford, sent a remarkably well-flowered plant of Hymenocallis macrostephana.

Mr. R. Dean, Ealing, sent Seedling Pentstemons, to show the rich colours to be obtained from a good selection.

Messrs. James Veitch & Sons sent an interesting exhibit—a hybrid between a Rhododendron (one of the Javanicum hybrids) and Azalea indica Stella. Flowers of a rich orange-scarlet.

Mr. W. Wildsmith, Heckfield Place Gardens, Winchfield, sent some fine blooms of Chrysanthemums, including a dozen excellent examples of Avalanche.

ORCHID COMMITTEE.

H. J. VEITCH, Esq., F.L.S., in the Chair, and six members present.

Awards Recommended:—

Award of Merit.

To Odontoglossum grande, Tautz variety (votes, unanimous), from F. G. Tautz, Esq., Hammersmith (gardener, Mr. Cowley). This had a spike of six flowers, each measuring about 6½ inches across, with good colour, and considered the finest variety of the species.

Botanical Certificate.

To Epidendrum sceptrum (votes, unanimous), from Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking.

Cultural Commendation.

To Francis G. Gledstanes, Esq., Manor House, Gunnersbury (gardener, Mr. Manning), for a plant of Dendrobium formosum giganteum.

Other Exhibits.

Sir Trevor Lawrence, Bart., M.P., contributed a fine form of Cœlogyne speciosa with extraordinarily large flowers. F. G. Tautz, Esq., sent an interesting set of varieties of Odontoglossum Insleayi splendens and O. grande. Mr. F. Sander, of St. Albans, sent a Dendrobium allied to D. phalænopsis, which was recommended to be sent to Kew for determination. The Duke of Marlborough contributed a singular form of Cattleya aurea (named Blenheimensis) with nearly white sepals and petals, and the lip of ordinary C. Dowiana.

FRUIT COMMITTEE.

T. F. RIVERS, Esq., in the Chair, and fourteen members present.

Awards Recommended:—

Silver Banksian Medal.

To Leopold de Rothschild, Esq., Gunnersbury House, Acton (gardener, Mr. J. Hudson), for a fine collection of Apples and Pears. Amongst the Apples the most noteworthy varieties were Winter Queening, Golden Noble, King of the Pippins, and Cox's Pomona. Pears: Pitmaston Duchess, Beurré Superfin, and Louise Bonne of Jersey.

To Messrs. Gaymer & Son, Banham, Attleboro', Norfolk, for a collection of very good Apples, many of which are used in the production of cider; also samples of Sparkling Cider of fine quality.

To Lord Suffield, Gunton Park, Norwich (gardener, Mr. W. Allan), for a remarkably fine collection of Pears, conspicuous being Marie Louise, Beurré Bachelier, Durondeau, General Todtleben, Emile d'Heyst, Doyenné du Comice, British Queen, Beurré Diel, and Glou Morçeau.

First Class Certificate.

To Grape Appley Towers Seedling (votes, unanimous), from Mr. Myles, Appley Towers, Ryde. Berry medium size, black, ovate, with a sweet Muscat flavour.

Cultural Commendation.

To Messrs. George Bunyard & Co., The Nurseries, Maidstone, for large and fine examples of Bismarck Apple.

To Mr. W. Bates, Poulett Lodge, Twickenham, for handsome examples of Pineapples—Prince Albert, weighing 4 lbs., and Smooth Cayenne, 6 lbs.

Other Exhibits.

Mr. T. Laxton, Bedford, sent Pears Laxton's Bergamot and The Berkeley, which were over-ripe.

Mr. Tice, Feltham, sent fruits of Apple Blenheim Pippin.

Mr. G. Wythes, Syon House Gardens, Brentford, sent fruits of Musa paradisaica.

SCIENTIFIC COMMITTEE.

Mr. R. McLachlan, F.R.S., in the Chair, and eight members present.

Rhododendron and Azalea.—Mr. Veitch exhibited two plants raised from a cross between Azalea indica Stella (male) and Lord Wolseley (female), a Rhododendron of East Indian parentage. [R. jasminiflorum × R. javanicum = Princess Royal; Princess Royal × R. Brookeanum var. gracile=Duchess of Teck; Duchess of Teck × R. javanicum=Lord Wolseley.] Both plants were from the same pod, but while one was about a foot in height the other was scarcely 3 inches, though six years old. The former bore a truss of orange-coloured flowers of about the same colour as those of Lord Wolseley. The corolla was somewhat smaller, with not so broad a limb, and in texture approximated the Azalea. Mr. Henslow undertook to examine and report upon the anatomical structure of the leaves, to see if there were intermediate characters. A botanical certificate was unanimously awarded to Mr. Veitch for this interesting cross.

Peas diseased.—Dr. Oliver reported upon the plants sent by Mr. Pownall to the last meeting, but having insufficient specimens he was unable to assign a cause for the injury. Fresh material having been received with roots attached, he undertook to report further upon it at the next meeting.

Change of Sex induced by a Parasitic Fungus.—Mr. Plowwright forwarded an interesting communication upon the effect of Ustilago violacea on Lychnis vespertina. He artificially impregnated a female plant with spores from the anthers of a male plant of Lychnis diurna infested with the Ustilago. Although the hybrid offspring raised were perfectly healthy, yet the female parent plant itself (L. vespertina) bore nothing but male flowers in the following year, every one of which was affected with U. violacea. A fuller account will appear later in the *Journal of the Royal Horticultural Society.* It was suggested by members of the Committee that the explanation is that the change of sex is due to compensation. Whatever tends to lessen the vitality or vigour of the female organ may heighten that of the male, as occurs frequently in hermaphrodite flowers, and when they are normally unisexual then the lost sex may reappear, when the energy is diverted from the one usually present. Moreover, if the constitution be weakened, as was possibly the case in the present instance by the fungus, then the plant may be only capable of forming stamens, for it is well known that the male sex is often correlated with a lessened degree of vitality.

Oranges attacked by the Fly.—A communication was received from Malta stating that, "The Orange fly, Ceratitis citriperda, has of late years done much damage to the fruits of the Orange and Citron trees in Malta. It has also attacked the fruit of the Pear, Peach, Nectarine, and Fig. The females penetrate the skin of the ripe fruit and deposit their eggs, and the larvæ rapidly destroy the fruit. It is believed that in the island of Malta there are four broods of the fly in the year. The fly has been observed in Italy, Spain, the Azores, and South Africa." No specimens were sent, so that no opinion could be expressed upon the matter or a remedy suggested. It was thought advisable to take this opportunity of calling the attention of correspondents to the extreme importance of their invariably sending specimens with their communications, otherwise it is quite impossible for scientific experts to return satisfactory replies.

Fog Report.—The discussion upon the injury of London fogs upon vegetation was renewed, and a circular drawn up, which will shortly be issued to growers within a radius of twelve to fifteen miles from the metropolis. The Committee trust that they will furnish as full details as possible, with the hope that the investigation may lead to the adoption of such preventives as conditions will permit against the increasing injury which now prevails in the suburbs of London.

The Lady Apple.—Mr. Henslow exhibited a spray covered with the brightly coloured fruit from a tree which grows in a hedge within his garden near Drayton Green, Ealing. It is probably a descendant from some plant introduced many generations ago. It is asserted in "The Fruit Manual," by Dr. Hogg, to have been brought from the Peloponesus to Rome by Appius Claudius, and was called the "Lady Apple" because ladies in France were accustomed to carry it in their pockets in order that the peculiar odour might be imparted to their handkerchiefs Though known to early continental writers, it does not appear to have been introduced into England till the end of the seventeenth century. It was first discovered as a wilding in the Forest of Api in Brittany. Only one dish was exhibited (by Mr. Pragnell, of

Castle Gardens, Sherborne, Dorset) at the National Apple Congress in 1883, and one dish at the Apple and Pear Conference, 1888. Hence it would seem to be nearly extinct in England at the present time. It has little or no commercial value, though useful for decorative purposes.

Gentiana Amarella, sub-species germanica.—Dr. Masters exhibited specimens of this plant from Tring, whence it was first recorded. Hooker and Arnott, "Brit. Flor." 1855, give only Tring and Ripon as localities, but Hooker, "Stud. Flor." 1884, mentions York, Pembroke, Herts, Berks, Surrey, and Hants. Though regarded as separate species by some continental botanists, intermediate conditions link the extreme forms together.

CHRYSANTHEMUM CENTENARY, 1889.

A Chrysanthemum Centenary Conference and Exhibition was held at the Chiswick Gardens on November 5 and 6, 1889.

On the first day the Conference was opened at 1.30 P.M. by the President, T. B. Haywood, Esq., who delivered an address. The following papers were then read:—

"Origin of Chrysanthemums," by W. Botting Hemsley, F.R.S., A.L.S.

"Summarised History of Chrysanthemums," by Mr. Harman Payne.

"New Varieties," by Mr. E. Molyneux.

"Judging Chrysanthemums," by Mr. J. Wright.

"Progress in Chrysanthemums," by Mr. Shirley Hibberd.

On the second day, in the absence of the President, Mr. Shirley Hibberd, F.R.H.S., occupied the chair, and the following papers were read:—

"Chrysanthemum Seed and Seedlings," by Mr. F. W. Burbidge, M.A., F.L.S.

"Dwarfing and Grouping Chrysanthemums," by Mr. C. Orchard.

"Market Chrysanthemums," by Mr. C. Pearson.

"Summer and Early Autumn Chrysanthemums," by Mr. W. Piercy.

FLORAL COMMITTEE.

W. Marshall, Esq., in the Chair, and twelve members present.

Awards Recommended :—

Silver Banksian Medal.

To Leopold de Rothschild, Esq., Ascott, Leighton Buzzard (gardener, Mr. John Jennings), for a remarkably well-flowered group of 100 Carnation Miss Joliffe (Improved), in pots. The flowers of this variety are of a deeper pink, and larger than in the type.

Cultural Commendation.

To Messrs. James Veitch & Sons, Chelsea, for a specimen of Winter-flowering Begonia Adonis, bearing between 200 and 300 bright rosy-carmine flowers.

Other Exhibits.

Sir George Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross), sent cut sprays of Buddleia auriculata, a valuable late-flowering shrub, bearing very sweetly scented flowers.

Messrs. J. Veitch & Sons, Chelsea, sent cut blooms of Greenhouse Rhododendrons.

M. Truffaut, Versailles, sent Vriesia Maria; bracts rich crimson at the base, the remainder deep olive-green.

COMMITTEE OF THE CHRYSANTHEMUM CONFERENCE.

Awards Recommended :—

First Class Certificate.

To Chrysanthemum Etoile de Lyon (Japanese), from Messrs. Cannell & Son, and from Mr. E. Molyneux.

To Chrysanthemum Miss M. A. Haggas (Incurved), from Messrs. Cannell & Son, and from Mr. E. Molyneux.

To Chrysanthemum Violet Tomlin (Incurved), from Messrs. Cannell & Son, from Mr. E. Molyneux, and from Mr. G. Stevens.

To Chrysanthemum Mrs. Judge Benedict (Anemone), from Mr. R. Owen.

To Chrysanthemum Mrs. Alpheus Hardy (Japanese), from Mr. T. S. Ware, and from Messrs. Pitcher & Manda.

Award of Merit.

To Chrysanthemum Aurora (single), from Messrs. Cannell & Son.

To Chrysanthemum Mme. E. A. Carrière (Japanese), from Messrs. Cannell & Son.

To Chrysanthemum Bombardier (decorative), from Messrs. Cannell & Son.

To Chrysanthemum Souvenir de Londres (single), from Messrs. Cannell & Son, and from Mr. E. Molyneux.

To Chrysanthemum Mons. Bernard (Japanese), from Messrs. Cannell & Son, and from Mr. E. Molyneux.

To Chrysanthemum Lune Fleuri (Pompon), from Messrs. Cannell & Son, and from Mr. R. Owen.

To Chrysanthemum Thos. Stephenson, from Mr. Clibran, and from Messrs. Cannell & Son.

To Chrysanthemum Rose Owen (single), from Mr. R. Owen.

To Chrysanthemum Lily Owen (single), from Mr. R. Owen.

To Chrysanthemum Alice Stevens (Pompon), from Mr. G. Stevens.

To Chrysanthemum Mrs. Falconer Jameson (Japanese), from Mr. F. Jameson, and from Mr. E. Molyneux.

To Chrysanthemum Stanstead White (Japanese), from Mr. F. Jameson.

To Chrysanthemum Admiral Sir T. Symonds (single), from Mr. E. Molyneux.

To Chrysanthemum Effie (single), from Mr. E. Molyneux.

To Chrysanthemum, James Weston (Japanese Anemone), from Mr. E. Molyneux.

To Chrysanthemum Annie Clibran (Japanese), from Messrs. Clibran & Son.

To Chrysanthemum L'Automne (Japanese), from Messrs Clibran & Son.

FRUIT COMMITTEE.

HARRY J. VEITCH, Esq., F.L.S., in the Chair, and eleven members present.

Awards Recommended :—

Cultural Commendation.

To the Duke of Northumberland, Syon House (gardener, Mr. G. Wythes), for a fine specimen of Monstera deliciosa.

To the Right Hon. Lord Foley, Ruxley Lodge, Esher (gardener, Mr. J. Miller), for some fine Mushrooms from a bed in the open ground.

Vote of Thanks.

To H. Balderson, Esq., Hemel Hempstead, for fine examples of 10 varieties of Grapes, grown in the one house. The Black Hambro', White Tokay, Golden Champion, Foster's Seedling, and Alicante were the most noticeable.

Other Exhibits.

R. A. Cartwright, Esq. (gardener, Mr. Wiles), showed some examples of Wiles's Brussels Sprouts.

The Committee examined the collection of Brussels Sprouts, numbering thirty, growing in the Gardens, and selected Paris Market, from Vilmorin & Co., Paris, a dwarf variety, forming small compact sprouts, and Northam Prize, from Messrs. James Veitch & Sons, for three marks=First-class Certificate; and Paris Market, Oakshott & Millard, for two marks. Best of All, from Mr. Atherton-Chatteris, a tall-growing variety, was commended. The Committee were of opinion that most of the varieties were too large and coarse.

SCIENTIFIC COMMITTEE.

Albert D. Michael, Esq., F.L.S., in the Chair, and eight members present.

Monstrous Chrysanthemums.—Mr. Burbidge exhibited two flowers, in one of which the corollas had become partly virescent and distorted; in the other they were surrounded by a numerous progeny of buds, producing the "hen and chicken" form. The question was raised as to the possibility of fixing such peculiar monstrosities by breeding. It was observed by Mr. Veitch that a tendency to doubling is secured and intensified by self-fertilisation, as occurred in the Balsamiflorum section of his East Indian Rhododendrons. Mr. O'Brien remarked that the first double Begonias were secured in precisely the same way. Observations were made on the possibility of the effects of mechanical injury to plants being hereditary. It was the belief of Mr. O'Brien that Ferns may become tasselled, and transmit that feature, solely from repeated injury to the fronds, judging from a case within his experience. Mr. Burbidge also corroborated the belief that irritations which are prolonged tend to produce effects which may be transmitted to the offspring. The cause of the monstrous condition of the specimens exhibited was thought to be over-nutrition, judging from the gross nature of the foliage, &c.

Origin of the Chrysanthemum.—A communication was read from Mr. Hemsley, in which he recorded the fact that the earliest specific name given by Ramatuelle to the Chrysanthemum was not sinense, but morifolium, C. indicum being supposed to be a distinct species. Mr. Burbidge, however, observed that of seedlings from any Chrysanthemum, forms apparently identical with C. indicum, which is a native of China, always arise, leading to the supposition that this latter species is the real origin of both kinds in cultivation. All wild specimens are yellow and single, the other colours having arisen by cultivation.

Orchids exhibited.—Mr. O'Brien showed the following plants, which were received from Mr. Tautz, of Hammersmith: Cycnoches barbatum; this first flowered in 1849 with Mrs. Lawrence, of Ealing Park. It was (if dimorphic, as other species) presumably the male form. A Botanical Certificate was unanimously awarded. Stelis micrantha, a minute-flowering plant; Trichosma suavis trilabellia, this being one of several Orchids now cultivated, with a tendency to Peloria, in that the two other petals are more or less coloured like the labellum.

Rhododendron indico-javanicum (bigeneric).—Mr. Henslow described the foliage of this cross, exhibited by Mr. Veitch at the last meeting. Though smaller in size, the leaf agreed both in form and anatomical details with that of the Rhododendron, or female parent, in every detail of importance. That of Azalea was markedly different, being obovate instead of lanceolate; toothed and not entire; covered with fibrous hairs instead of being glabrous above, with minute peltate scales below; the cell-walls of the epidermis being sinuate instead of straight; and the proportion of stomata being less than in the Rhododendron as well as the cross. The hairs of Azalea are very peculiar in structure. They grow on the branches, petioles, midrib, and veins below, and generally scattered over the upper surface of the leaf. They are composed of numerous fibres resembling short liber-fibres, graduated in length so that the longest form the point of the hair. Mr. Henslow observed that he could not discover any previous description of such a structure, which appears to have been hitherto overlooked. He also examined the foliage of the dwarf plant, sister to the above cross. The anatomical details exhibited a very considerable amount of arrest of structure, the number of cells being nearly twice that of the Rhododendron in consequence of their minute size, with fewer stomata. It also agreed in most other respects, both with the sister-cross as well as with the Rhododendron, except that the shape was more elliptical, and possessed glandular hairs instead of peltate scales. It was observable that this cross followed the supposed rule that the female parent imparted its likeness to the foliage, while the male parent supplied that of the flowers. Mr. Henslow observed that in the 150 hybrids and crosses raised by Mr. Veitch, amongst seven East Indian species of Rhododendron, the rule was found to fail entirely, in that each parent would impart certain peculiarities either to the flowers or leaves, according to its own prepotency, but the cause of such a power was at present unknown.

Reversion in Potatoes.—At a meeting of the Scientific Committee on November 13, 1888, Mr. W. G. Smith exhibited a Potato which was the result of a reversion. Mr. Fenn had crossed two long sorts of Kidney Potatoes—viz., Early Coldstream and the Early Ashleaf. The result was a globular form which he called W. G. Smith. After eighteen years, during which this had come true, one plant suddenly reverted to the original type. The specimen exhibited was 5½ inches long, the round one being about 2½ inches in diameter. Mr. Henslow planted these tubers in March 1889, and the round Potato yielded only 1 lb. 8 oz. of small tubers; the long one, planted by the side of it, gave 6 lbs. of large-sized tubers. Not only were the tubers true to their kinds, but the foliage was very distinct.

Clematis Vitalba.—Mr. Henslow exhibited a photograph of, and described a plant of the Traveller's Joy, or Old Man's Beard, which grows in his garden near Drayton Green, Ealing. It is evidently of great age, as the stem at the base is about 9 inches in circumference. From this proceed several thick branches; half of the plant then spreads over a thick Holly hedge about 5 to 8 feet in height. The Clematis extends to about 30 feet each wa , completely covering it with foliage and dense masses of blossom. One branch crosses an arched trellis, and climbs to the roof of the house, whence, intermingling with Virginian

Creeper, it hangs in long festoons to the ground. The superficial area covered by the part on the hedge alone is about 150 square yards. The remarkable feature in the case is the enormous and vigorous growth the Clematis has made, and yet it is in ground with only a foot or two of earth over fine red gravel, constituting the uppermost and most ancient of the gravel beds of the Thames, there being, as far as is known, not a trace of calcareous matter in the soil. Nevertheless, the plant is usually described as a chalk-loving species. At all events, it is found abundantly on the chalk of Kent, the oolitic limestones near Cheltenham, and the carboniferous limestone near Bristol, &c. Mr. Burbidge suggested that it was just possible, growing so close to the house, that there might have been buried there a quantity of old mortar, &c. The ground, however, was lately excavated for a drain within 4 and 10 feet, when nothing but red gravel was exposed.

GENERAL MEETING.

DECEMBER 10, 1889.

T. B. HAYWOOD, Esq., in the Chair.

ELECTIONS.

Fellows, 20.—C. F. Barker, Mrs. Bovill, Mrs. Bernard E. Brodhurst, Edmund T. Chamberlain, Norman Cookson, Thomas A. Cotton, Walter James Green, Charles Holden, A. Wells Ingram, Mrs. Kemp-Welch, James Lake, R. Veitch Mather, Com.-General H. E. Moore, John Brandram Morgan, George Newman, Frank Rich, Ronald A. Scott, David Storrie, S. Stubbs, Robert Willan.

FLORAL COMMITTEE.

W. MARSHALL, Esq., in the Chair, and eleven members present.

Awards Recommended: –

Award of Merit.

To Carnation Winter Cheer (votes, unanimous), from Messrs. J. Veitch & Sons, Chelsea. A very free-blooming, useful variety, bearing neatly formed scarlet flowers.

To Chrysanthemum Mrs. Alpheus Hardy (votes, unanimous), from Messrs. Pitcher & Manda, 139 Barry Road, Dulwich. (*See* Awards at Chrysanthemum Conference, p. cxxxii.)

Other Exhibits.

Messrs. James Veitch & Sons contributed cut blooms of beautiful hybrid Greenhouse Rhododendrons, varieties of which had been continuously in flower since July last.

Lord Foley, Ruxley Lodge, Esher (gardener, Mr. W. Miller), sent cut blooms of Eucharis amazonica.

Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bain), sent a well-flowered plant of Anthurium Burfordiense X.

J. W. Ford, Esq., Chase Park, Enfield (gardener, Mr. F. H. Froud), sent a plant of the curious Hæmanthus hirsutus in flower. This plant generally flowers just before leaf-growth commences, and from the side of the bulb, instead of, as in the present instance, from the centre; and, moreover, without the "shield," as in the specimen shown. It was referred to the Scientific Committee.

Sir George Macleay, Pendell Court, Bletchingley (gardener, Mr. F. Ross), sent Arundo mauritanica, a half-hardy ornamental Grass.

Messrs. H. Cannell & Sons, Swanley, sent some very fine examples of Zonal Pelargoniums (cut blooms), and cut flowers of a very good strain of Primulas.

Messrs. C. Lee & Son, Royal Vineyard Nursery, Hammersmith, sent several plants of Bouvardia elegans variegata, a sport from B. elegans, and apparently constant.

This being the last meeting of the year, Mr. John Fraser proposed a vote of thanks to the Chairman, Wm. Marshall, Esq., which was carried unanimously.

ORCHID COMMITTEE.

Sir TREVOR LAWRENCE, Bart., M.P. (President R.H.S.), in the Chair, and nine members present.

Awards Recommended:—

Bronze Medal.

To J. S. Hodgson, Esq., Lythe Hall, Haslemere (gardener, Mr. A. Evans), for a fine specimen of the white Masdevallia tovarensis, with 162 spikes, bearing in all 346 fully expanded flowers.

First Class Certificate.

To Cœlia bella (votes, unanimous), from Malcolm S. Cooke, Esq., Kingston Hill. This is a fine, well-known species, with short sprays of white flowers tipped with mauve.

To Lælia-Cattleya Palles X, from Messrs. Jas. Veitch & Son. This is the result of crossing Lælia crispa with Cattleya Dowiana. Its richly coloured labellum partakes of the colouring of C. Dowiana, but exhibits a more decided violet tinge.

To Cypripedium Niobe X, from Messrs. Jas. Veitch & Son. A beautiful variety obtained between C. Fairrieanum and C. Spicerianum.

Award of Merit.

To Cypripedium T. B. Haywood X, from Messrs. Jas. Veitch & Son.

To Cypripedium Galatea majus X, from Baron Schroder (gardener, Mr. Ballantine).

Cultural Commendation.

To Lord Rothschild, M.P., Tring Park (gardener, Mr. E. Hill), for a very robust and well-flowered specimen of Vanda Amesiana.

Other Exhibits.

Messrs. F. Sander & Co., of St. Albans, staged a select group of very fine Orchids, many of them new species.

C. Ingram, Esq., Godalming, sent a hybrid Cypripedium, which the Committee pronounced to be identical with C. Lathamianum X, a variety raised at the Birmingham Botanic Gardens, Edgbaston, by intercrossing C. villosum and C. Spicerianum.

C. Parr, Esq., Wappenhall Hayes, Warrington (gardener, Mr. Catt), sent a superb form of Cypripedium bellatulum, and also a very handsome hybrid Cypripedium, which the Committee decided was a good form of C. Leeanum X.

E. J. Wrigley, Esq., Dukinfield, Chester (gardener, Mr. C. Harris), staged a fine plant of Lælia albida, and a good form of Oncidium Forbesii.

FRUIT COMMITTEE.

Sir C. W. Strickland, Bart., in the Chair, and twenty-three members present.

Awards Recommended:—

Cultural Commendation.

To the Earl of Harrington, Elvaston Castle, Derby (gardener, Mr. J. H. Goodacre), for very fine examples of Grape Lady Downe's Seedling, and Tomato Ham Green Favourite.

To Lieutenant-Colonel Eyre, Welford Park, Newbury (gardener, Mr. C. Ross), for a handsome specimen of Smooth Cayenne Pineapple, weighing 7 lbs. 8½ oz.

To Mr. H. Deverill, Corn Hill, Banbury, for large and fine examples of Onion Ailsa Craig and the Improved Wroxton.

To the Rev. W. Wilks, Shirley Vicarage, Croydon, for example of the Tree Tomato, referred to as follows by Mr. Wilks: "The 'tree' on which the fruits shown have been grown is about 9 feet high, with a spreading much-branched head. The leaves when young are of a violet-purple colour, changing with growth into a deep green. They are very large when fully developed. The blossom is precisely like a Solanum, being in fact, to an ordinary observer, identical with that of the plant commonly known as 'Black' or Woody Nightshade.' It is an abundant bearer, the fruit ripening late in November and throughout December and January. The fruit when raw has a much firmer flesh than a Tomato, and is slightly more acid, but when cooked it is almost undistinguishable from the ordinary Tomato. The plant has been grown throughout in a cool orchard-house, from which only frost is excluded."

To the Dowager Marchioness of Huntly, Orton Hall, Peterborough (gardener, Mr. A. Harding), for a very fine sample of Brussels Sprouts, The Orton.

Other Exhibits.

A. H. Smee, Esq., The Grange, Wallington, Surrey (gardener, Mr. G. W. Cummins), sent Apple Remborough—a handsome dessert variety, somewhat resembling King of the Pippins. The Committee desired to see it again.

Lieutenant-Colonel Eyre (gardener, Mr. C. Ross) sent Apple Atalanta—a dessert variety raised from Scarlet Nonpareil, of good quality. The Committee desired to have further information respecting it.

Lord Savill, Rufford Abbey, Ollerton, Notts (gardener, Mr. Doe), sent Apple Beauty of Stoke, of the Blenheim quality, and resembling The Sandringham.

Messrs. W. & J. Brown, nurserymen, Stamford, sent Seedling Apples: Toogood's Seedling (similar to Golden Noble), Duncombe's Seedling, and South Lincoln Beauty. These were believed not to be an improvement on sorts already in cultivation.

Lord Foley, Ruxley Lodge, Esher (gardener, Mr. W. Miller), sent fine examples of Mushrooms from an outside bed.

Mr. Stott, Fulwood, Preston, sent the "Simplex" Manure and Insecticide Distributor.

Mr. Coates, Wallington, Surrey, sent a sample of his patent "Anti-incrustator," for use in hot-water boilers.

Mr. G. Bunyard proposed, and Mr. Harrison Weir seconded, a vote of thanks to the Chairman and Vice-Chairmen for their services during the year. This was carried unanimously.

SCIENTIFIC COMMITTEE.

D. Morris, Esq., F.L.S. (Treasurer R.H.S.), in the Chair, and eight members present.

Hybrid Rhododendron.—Mr. Veitch showed a hybrid Rhododendron between R. malayanum, a dwarf species, with the under side of the leaves densely scaly, and a hybrid form named Monarch. The new hybrid had luminous, orange-red flowers, and was almost exactly intermediate in all its characteristics between the two parents.

Deformed Carrots.—Mr. Veitch showed a large number of deformed Carrots, in which the crowns, instead of possessing a single central bud, had branched into several, while the ordinarily single tap-root was also divided into several branches. The roots had been grown on a dry brashy soil, in which there were a large number of stones. During the hot dry weather in summer the soil was so dry and hard that the roots had difficulty in penetrating it, and hence the energy of growth was directed rather to the formation of supernumerary crown-buds and root branches than to the ordinary tap-root. Professor Church corroborated the view that the branching of the roots was due to some mechanical obstacle in the soil. He had found not only that the relative quantity of nitrogenous compounds was in excess in such roots, but that the proportion of non-albuminoid nitrogen was greater, showing that the elaboration of nitrogen-compounds was less complete. Dr. Masters called attention to the presence of a slime fungus in some cases of this kind.

Seakale Roots.—Some roots of Seakale, rotten in the centre and affected with fungus, were also exhibited. The Carrots and the Seakale were referred to Professor Marshall Ward for examination and report.

Effect of Fog on Orchid Blossoms.—Mr. Veitch showed flowers of Phalænopsis and Oncidium, showing how the fog affected blossoms which had not fully expanded, and arrested their further development, while those in a more fully developed condition were relatively uninjured. The specimens were referred to Dr. Scott for examination and report.

Insect injurious to Sugar-cane in Barbados.—Mr. Morris exhibited specimens sent from the botanical station at Barbados, which were referred to Mr. Michael.

Production of Seedling Sugar-canes in Barbados.—In connection with the above, Mr. Morris incidentally drew attention to the discovery of seedling Sugar-canes in Barbados, and to the interest attaching to them, as furnishing a possible means of obtaining new and improved varieties. It is singular that up to this time the variations in the Sugar-cane have been derived chiefly from sports or bud variations.

Dactylopius (Mealy Bug) in Egypt.—Mr. Morris read a letter addressed to Professor Oliver, Royal Gardens, Kew, by Admiral Blomfield:—

"I see in the August number of the *Kew Bulletin* an interesting account of the Icerya Purchasi, and its depredations in South Africa, California, &c. During the past four years our gardens at Alexandria have been invaded by a coccus, which threatens now to destroy all our trees, and is causing the greatest alarm here. I have taken the liberty of sending some specimens in a tin box. Our local savants do not seem satisfied as to its scientific name, though one has pronounced it to be the common mealy bug—D. adonidum—which I imagine to be a very much smaller insect. It first appeared about four years ago, when I noticed it in quantities on the under side of the leaves of a Banyan tree, but it has since spread with extraordinary rapidity, and one of our most beautiful gardens, full of tropical trees and shrubs, has been almost destroyed. A breeze sends the cottony bugs down in showers in all directions. It seems to attack almost any plant, but the leaves of the Ficus rubiginosa, and one or two other kinds of Fig, seem too tough for it, and it will not touch them. It seems almost hopeless here for a few horticulturists to try to eradicate this formidable pest while their indifferent neighbours are harbouring hotbeds of it, and there will have to be some strong measures taken by law to put it down."

The insect in question had been referred to Mr. Douglas, and was said to be an undescribed species of Dactylopius. Spraying with kerosene emulsion was recommended, but no remedy was likely to be effectual that was not carried out universally.

Excœcaria Fruits.—Mr. Morris exhibited fruit "shells" of this Euphorbiaceous plant received from Formosa, and which were tied together in necklace-like arrangements by silken strands, the work probably of the larva of some moth.

Canker in Apple Tree.—Mr. A. Dean exhibited a branch of Wellington Apple, showing a well-marked illustration of canker in a tree grafted on the Crab stock, and planted on a subsoil of clay. The specimen was referred to Professor Marshall Ward for a report.

Action of Frost.—Mr. A. Dean sent a branch of Keddleston Pippin, showing the effect of frost in bursting the tissues and cracking the bark. The injury had probably been done some time previously, though only recently observed.

Fruit of Stephanotis.—From Mr. Denning came a seed-pod of this plant, and which is only occasionally produced in cultivation, owing probably to the absence of the insect adapted to fertilise its flowers.

Hæmanthus hirsutus.—A plant of this species, producing flowers with the leaves, was exhibited by Mr. J. W. Ford, of the Chase Park, Enfield, who received a vote of thanks for the exhibit of this interesting plant. The flower-spike came from the apex of the bulb instead of, as usual, from the side.

Cone of Pinus Ayacahuitè.—Dr. Masters showed a fine cone of this Mexican species, grown in the Isle of Man by Mr. Farrant, and made some comments on the species, which is somewhat tender in the neighbourhood of London.

The Committee was then dissolved, prior to reconstruction in the new year.

Books, &c. received for the Library of the Royal Horticultural Society from February 12 to December 31, 1889.

"Acta Horti Petropolitani," Tom. X., fasc. ii. "Agricultural Distress and Trade Depression"—Tallerman. "Amerikanischen Frühpfirsiche," von Prof. Dr. Rudolf Stolb. "American Phil. Society, Proceedings," Vol. XXV., Nos. 128–9. "Association pour la Protection des Plantes, Bulletin," No. 7. "Boston Society of Natural History, Proceedings," Vol. XXIII., Parts 3 and 4. "Bulletin d'Hort. Pratique du Rhône, 1849–50"—from Director, Royal Gardens, Kew. "Contributions to American Botany," XVI. —S. Watson. "Darwin, C. R., Life and Works of," by Dr. H. Burgerstein. "Deutches Rosenbuch"—Schultheis. "Fédération des Sociétés d'Hort. de Belgique, Bulletin," 1888. "Felstead School Natural History Society, Reports," 1886-7-8. "Flora Batava," Nos. 285, 286. "Fougères Rustiques"—Correvon. "Geological Society, Quarterly Journal," Vol. XLV., Nos. 178, 179, 180. Hughes' "Compleat Vineyard," 1670—presented by A. Eastty, Esq. "Iconography of Australian Acacia"—Mueller, Decades 9–11. "Japanese Hort. Society, Journal," October 1889. "Joly Ch. Brochures." "Kew Bulletin," 1889. "Linnean Society Journal," Vol. XXV., Nos. 170, 171; Vol. XXVI., No. 173. "Manchester Lit. and Phil. Society, Memoirs and Proceedings," Vol. II. "Massachusetts Hort. Society, Transactions," 1888, Part 1. "Native Plants of Australia"—J. R. Maiden. "New York State Agricultural Society, Transactions," 1883-86. "Nova Scotia, Annual Report of Secretary for Agriculture." "Revue des Sciences Naturelles Appliquées"—Paillieux et Bois. "Royal Agricultural Society, Journal," Parts 1 and 2, Nos. 49 and 50, 1889. "Royal Society, Proceedings," Vol. XLV., Nos. 276–283. "Royal Society of Canada, Proceedings and Transactions," Vol. VI., 1888. "Royal Society of Tasmania, Papers and Proceedings," 1886-7-8. "Smithsonian Report," 1886, Part I. "Sociedade Broteriana, Journal," Vol. VI., fasc. 3, 4; VII., fasc. 1. "Société centrale des Alpes-Maritimes, Bulletin-Journal," monthly parts. "Société Nantaise d'Hort. Annales," 1888, Part 4; 1889, Part 1. "Société Nationale d'Hort. de France, Journal," monthly parts. "Société d'Hort. de Genève, Bulletin," monthly parts. "Société d'Hort. de Senlis, Bulletin," monthly parts. "South African Phil. Society, Transactions," Vol. V., Part 1. "Wiener Illustrirte Gartenzeitung," monthly parts. "Zoological Society, Proceedings," 1888, Part 4; 1889, Parts 1, 2, 3.

Plants, Seeds, &c. presented to the Gardens, 1889.

Collection of Annuals (flower seeds)—Messrs. Barr & Son, 12 King Street, Covent Garden. Thirty varieties Seedling Potatoes—Mr. B. K. Bliss, 7 Exchange Place, Boston, U.S.A. Collection of Carnations, Vegetable Seeds—Herr Ernst Benary, Erfurt, Germany. Apples, Cherries, Nectarines, Peaches, Plums, and Currants (trees), Vegetable Seeds—Messrs. G. Bunyard & Co. Carnation "Mrs. Muir"—Mr. M. Campbell, Auchinraith, Blantyre, N.B. Flower and Vegetable Seeds—Messrs. James Carter & Co., 237–8 High Holborn. Collection of Herbaceous Pæonies—Dicksons, Limited, The Nurseries, Chester. Flower and Vegetable Seeds, Gloxinia hybrida (bulbs)—Damman & Co., Portici, Naples. Border Carnations, Picotees, and Pinks—Messrs. Dicksons & Co., Pilrig Park Nurseries, Edinburgh. Carnations and Picotees—Mr. J. Douglas, Great Gearies, Ilford. Nine varieties Seeds of Annuals—Messrs. Dobbie & Co., The Nurseries, Rothesay. Flower and Vegetable Seeds—Mr. R. Dean, Ranelagh Road, Ealing. Vegetable Seeds—Mr. H. Deverill, Corn Hill, Banbury. Asters, Zinnias, Marigolds, and Balsams—Messrs. Dipple Bros., Quedlinburgh. Vegetable Seeds—Mr. J. E. Dixon, nurseryman, Hull. Carnation "Horace

—Mr. H. Dan, Faversham. Tubers of Double and Single-flowered Begonias, Hibiscus (seed)—Mr. E. Edwards, Holmside, Leighton Buzzard. Flower and Vegetable Seeds—Mr. H. Eckford, Wem, Salop. Primula petiolaris —Professor Foster, F.R.S., Shelford, Cambridge. Carnations—Messrs. Fisher, Son, & Sibray, nurserymen, Sheffield. Vegetable Seeds—Mr. C. Fidler, Friar Street, Reading. Pansies—Mr. J. Forbes, The Nurseries, Hawick, N.B. Chrysanthemums—Mr. T. B. Haywood, Woodhatch Lodge, Reigate. Ivies—Mr. S. Hibberd, 1 Priory Road, Kew. Carnations and Pinks—Mr. F. Hooper, nurseryman, Bath. Vegetable Seeds—Messrs. Hooper & Co., Covent Garden. Vegetable Seeds—Mr. A. Harris, Wavenden, Woburn. Helianthus multiflorus "Soleil d'Or"—Mr. W. B. Hartland, nurseryman, Cork. Six varieties Hungarian Vines, Apple "Srcika"—Herr Horvath, Hungary. Vegetable Seeds—Mr. P. J. Kane, nurseryman, Kells, Co. Meath. Border Carnations, Picotees, and Pinks—Mr. J. Lakin, Temple Cowley, Oxford. Six varieties Pinks—Mr. T. Laxton, Bedford. Collection of Chrysanthemums, Bulbs of Gloxinias—Messrs. J. Laing & Sons, The Nurseries, Forest Hill. Thirty-four varieties Pelargoniums; Heliotropes, Pentstemons, Fuchsias—M. V. Lemoine, Nancy, France. Rosa canina ouralensis (?)—Dr. Masters, F.R.S., Mount Avenue, Ealing. Seedling Potatoes—Mr. G. Murdoch, Rothiemay, N.B. Seedling Gooseberry —Messrs. Merryweather & Son, The Nurseries, Southwell, Notts. Vegetable Seeds—Messrs. Oakshott & Millard, Reading. Collection of Herbaceous Pæonies, Carnations, Fig "Dalmatian," Grape "Bowood Muscat," three varieties Tomatoes—Messrs. Paul & Son, "Old" Nurseries, Cheshunt. Nine varieties New Zonal Pelargoniums—Messrs. Pearson & Sons, The Nurseries, Nottingham. Asters and Stocks (seeds)—Herr O. Putz, Erfurt, Germany. Thirty-five varieties Plums, eight varieties Vines, nine varieties Figs—Messrs. T. Rivers & Son. Seedling Potatoes Mr. C. Ross, Welford Park, Newbury. Solanum guatemalense (seed), Rosa gigantea—Royal Botanic Gardens, Kew. Vegetable Seeds—Messrs. Rutley & Silverlock, Victoria Embankment. Grape "Primaris Frontignan"—Mr. W. Roupell, Harvey Lodge, Roupell Park, S.W. Thirty varieties Ixias—Messrs. C. Smith & Son, The Nurseries, Guernsey. Vegetable Seeds—Messrs. C. Sharpe & Co., seedsmen, &c., Sleaford, Lincoln. Gooseberry "Henson's Seedling"—Mr. G. Smith, Mentmore, Leighton Buzzard. Flower and Vegetable Seeds—The Speciality and Novelty Seed Co., Newton-le-Willows, Lancashire. Grape "Tenturier," fifteen varieties Figs—Mr. A. W. Tait, 115 Entre Quintas, Oporto. Gloxinias, Chrysanthemums, Carnations, Pinks, Ferns, Vegetable Seeds—Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea. Vegetable Seeds—Messrs. R. Veitch & Son, New North Road Nursery, Exeter. Flower and Vegetable Seeds—Vilmorin, Andrieux & Co., 4 Quai de la Megisserie, Paris. Herbaceous Pæonies, Carnations—Mr. T. S. Ware, Hale Farm Nursery, Tottenham. Vegetable Seeds, &c.—Mr. E. S. Wiles, Edgcote, Banbury. Flower Seeds, &c.—Mr. B. S. Williams, The Nurseries, Upper Holloway, N. Shirley Poppy (seed)—Rev. W. Wilks, Shirley Vicarage, Croydon. Chilwell Nurseries Boiler—Foster & Pearson, Beeston, Notts. Fifty feet Sphincter Grip Armoured Hose—The Sphincter Hose Co., 9 Moorfields, E.C.

AWARDS MADE

On the recommendation of Fruit Committee.

FROM JANUARY 1 TO DECEMBER 31, 1889.

F.C., First-class Certificate ; A.M., Award of Merit.

FRUITS.

Apple Kane's Seedling (Dyke), Oct. 8. A.M.
Grape Appley Towers Seedling (Myles), Oct. 22. A.M.
,, Diamant Traube (Roupell), Sept. 17. F.C.
Melon Basing Park (Smythe), Aug. 13. F.C.
,, Countess (Goodacre), July 9. F.C.

VEGETABLES.

Cucumber Allan's Favourite (Allan), July 23. A.M.
,, Covent Garden Favourite (Unwin), April 9. A.M.
,, Lockie's Perfection (Turner), May 30. F.C.
Kale, Variegated (Veitch), Feb. 12. A.M.
Lettuce Grosse Paresseuse (Veitch), July 9. F.C.
Tomato Conference (R.H.S.), Aug. 13. F.C.

AWARDS MADE

On the recommendation of the Floral and Orchid Committees.

FROM JANUARY 1 TO DECEMBER 31, 1889.

F.C., First-class Certificate; A.M., Award of Merit; B.C., Botanical Certificate.

Acineta maculata (Lawrence), May 14. B.C.
Aciphylla squarrosa (Veitch), May 30. B.C.
Amaryllis Acquisition (Veitch), Mar. 12. A.M.
,, John Ruskin (Veitch), Mar. 12. F.C.
,, Sea Nymph (Paul & Son), April 23. A.M.
,, Terentian (Veitch), Mar. 26. F.C.
Angræcum Chailluanum (Tautz), Aug. 27. F.C.
Anthurium leodense (Lawrence), Oct. 8. F.C.
Athyrium f.f. regale, Barnes' variety (Birkenhead), May 30. A.M.
Aubrietia Leichtlinii (Paul & Son), April 23. A.M.
Begonia A. Blanc (Cannell), Aug. 13. A.M.
,, Duchess of Teck (Laing), May 14. F.C.
,, Frank Beadle (Cannell), Sept. 24. A.M.
,, Lady H. Cavendish (Cannell), May 30. A.M.
,, Mrs. Chamberlain (Laing), June 11. A.M.
,, ,, Litchie (Cannell), Aug. 13. A.M.
,, ,, A. Moens (Cannell), Sept. 24. A.M.
,, ,, Cayzer (Cannell), Aug. 13. A.M.
,, Rosebud (Cannell), May 30. F.C.
,, Sir W. C. Brookes (Cannell), May 30. A.M.
,, Stanstead Gem (Laing), May 14. F.C.
Bignonia Cherere (Macleay), July 23. F.C.
Bouvardia Hogarth fl. pl. (May), Aug. 27. A.M.
,, Mrs. Robert Green (May), July 23. F.C.

Brassia caudata (White), May 14. B.C.
Caladium Raymond Lemoinier (Laing), May 30. A.M.
Campanula Medium calycanthema (double and single—for strain) (Veitch), July 9. A.M.
Capsicum Coral Red (Mortimer), July 9. A.M.
Carex variegata (Veitch), Oct. 22. F.C.
Carludovica palmifolia (Williams), Aug. 27. F.C.
Carnation Mrs. F. Watts (Ware), July 9. A.M.
,, Winter Cheer (Veitch), Dec. 10. A.M.
Catasetum barbatum proboscidium (Lawrence), April 9. B.C.
Cattleya Brymeriana (Sander), May 30. F.C.
,, Gaskelliana, Cooke's variety (Cooke), June 25. A.M.
,, Hardiana, Wrigley's variety (Wrigley), Oct. 8. A.M.
,, Mendelii, Arddarroch variety (White), April 23. F.C.
,, ,, Duchess of Marlborough (Whellans), July 9. F.C.
,, ,, Rothschildianum (Schroder), May 30. F.C.
,, Miss Harris × (Harris), Sept. 17. F.C.
,, Trianæ variety (Findlay), Mar. 26. A.M.
,, Warscewiczii Hardyana (Wrigley), Oct. 8. A.M.
Ceropegia Sandersoni (Macleay), Oct. 8. B.C.
Chrysanthemum Admiral Sir T. Symonds (Molyneux), Nov. 5. A.M.
,, Alice Stevens (Stevens), Nov. 5. A.M.
,, Annie Clibran (Clibran), Nov. 5. A.M.
,, Annie Stevens (Stevens), Sept. 17. A.M.
,, Aurora (Cannell), Nov. 5. A.M.
,, Bombardier (Cannell), Nov. 5. A.M.
,, Dorie (Cannell), Oct. 8. A.M.
,, Effie (Molyneux), Nov. 5. A.M.
,, Etoile de Lyon (Cannell, and Molyneux), Nov. 5. F.C.
,, Eynsford White (Cannell), Oct. 22. A.M.
,, Golden Shah (Ware), Aug. 13. A.M.
,, James Weston (Molyneux), Nov. 5. A.M.
,, L'Automne (Clibran), Nov. 5. A.M.
,, Lily Owen (Owen), Nov. 5. A.M.
,, Lune Fleuri (Cannell, and Owen), Nov. 5. A.M.
,, Maud Pitcher (Stevens), Aug. 27. A.M.
,, Miss M. A. Haggas (Cannell, and Molyneux), Nov. 5. F.C.
,, Mme. E. A. Carrière (Cannell), Nov. 5. A.M.
,, Mons. Bernard (Cannell, and Molyneux), Nov. 5. A.M.
,, ,, Charles Lebocqz (Cannell), Oct. 22. A.M.
,, ,, Pankoucke (Cannell), Oct. 22. A.M.
,, Mrs. Alpheus Hardy (Ware, and Pitcher & Manda), Nov. 5. F.C.
,, ,, Falconer Jameson (Jameson, and Molyneux), Nov. 5. A.M.
,, ,, Judge Benedict (Owen), Nov. 5. F.C.
,, Nelson (Stevens), Oct. 22. A.M.
,, Rose Owen (Owen), Nov. 5. A.M.
,, Souvenir de Londres (Cannell, and Molyneux), Nov. 5). A.M.
,, Stanstead Surprise (Laing), Oct. 22. A.M.
,, Stanstead White (Jameson), Nov. 5. A.M.
,, Thomas Stephenson (Clibran, and Cannell), Nov. 5. A.M.
,, Violet Tomlin (Cannell, Molyneux, Stevens), Nov. 5. F.C.
,, W. Neville (Cannell), Oct. 22. A.M.

Clivia John Laing (Laing), Mar. 26. F.C.
,, Lady Wolverton (Davidson), Mar. 12. F.C.
Cœlia bella (Cooke), Dec. 10. A.M.
Coleus Cleopatra (Hewett), Sept. 17. A.M.
,, Eureka (Rothschild), April 23. A.M.
Cornus sibirica Späthi (Veitch), July 23. F.C.
Crinum Kirkii (Macleay), May 14. F.C.
Cunonia capensis (Northumberland), May 14. F.C.
Cyclamen Prince of Wales (for strain) (St. George's Nursery Co.), Mar. 12. A.M.
Cymbidium eburneo-Lowianum (Veitch), Mar. 12. F.C.
Cypripedium Galatea majus (Schroder), Dec. 10. A.M.
,, Niobe × (Veitch), Dec. 10. F.C.
,, nitidissimum (Cookson), April 23. F.C.
,, orphanum (Schroder), Aug. 13. F.C.
,, picturatum (Lawrence), Oct. 8. F.C.
,, Rothschildianum (Rothschild), Mar. 12. F.C.
,, T. B. Haywood × (Veitch), Dec. 10. A.M.
Cyrtanthus sanguineus (Veitch), Sept. 24. F.C.
Cyrtomium falcatum Fensomi (Fensom), July 23. F.C.
Dahlia Alice Emily (Keynes, Williams & Co.), Aug. 27. A.M.
,, Centenary (West), Sept. 17. A.M.
,, W. C. Harvey (Ware), Aug. 13. A.M.
,, Conquest (Harris), Sept. 17. A.M.
,, Crimson Globe (Keynes, Williams & Co.), Aug. 27. A.M.
,, F. L. Temple (Ware), Aug. 27. A.M.
,, Gulielma (Cheal), Sept. 17. A.M.
,, Hester Dorothea (Girdlestone), Sept. 17. A.M.
,, James Scobie (Cheal), Aug. 13. A.M.
,, John Hickling (Keynes, Williams & Co.), Aug. 27. A.M.
,, Marchioness of Bute (West), Aug. 27. A.M.
,, Marmion (Turner), Sept. 17. A.M.
,, Panthea (Keynes, Williams & Co.), Aug. 27. A.M.
,, Reliance (Keynes, Williams & Co.), Aug. 27. A.M.
Delphinium Arditi (Kelway), June 11. A.M.
,, Banquo (Kelway), June 25. A.M.
,, Britannia (Kelway), June 25. A.M.
,, Faust (Kelway), June 11. A.M.
,, Orbit (Kelway), June 11. A.M.
,, Regalia (Kelway), June 11. A.M.
,, Sir T. Lawrence (Kelway), June 25. A.M.
,, The Shah (Kelway), June 25. A.M.
Dendrobium euosmum leucopterum × (Schroder), April 9. F.C.
,, melanodiscus × (Lawrence), Mar. 26. A.M.
,, micans × (Veitch), Mar. 26. F.C.
,, revolutum (Lawrence), July 23. B.C.
Dianthus Snowflake (for strain) (R. Dean), Sept. 17. A.M.
Disperis Fanniniæ (Smee), Sept. 17. B.C.
Dracæna Doucetti (Veitch), May 14. F.C.
Epidendrum sceptrum (Lawrence), Oct. 22. B.C.
Epiphyllum Makoyanum (Veitch), April 23. F.C.
Fuchsia Dorothy Fry (Fry), June 11. A.M.
Gladiolus Alsace (Veitch), Aug. 13. A.M.
,, André Chenier (Veitch), Aug. 13. A.M.
,, Duchess of Fife (Kelway), Aug. 27. A.M.
,, Hippolyta (Whall), Aug. 13. A.M.
,, nanceianus × President Carnot (Lemoine), Aug. 13. F.C.
,, Vulso (Kelway), Aug. 27. A.M.

Hollyhock Delicata (Webb & Brand), Aug. 27. A.M.
Hyacinth Yellow Hammer (Veitch), March 26. A.M.
Iris Kæmpferi White Banner (Macleay), July 9. F.C.
,, Rosenbachiana (Barr, Whitbourn), March 12. F.C.
Lælia autumnalis alba (Veitch), Oct. 8. F.C.
,, Dellensis × (Schroder), May 30. F.C.
,, Digbyana × Mossiæ (Veitch), May 14. F.C.
,, elegans, Cooke's var. (Cooke), Aug. 27. F.C.
,, ,, Duchess (Whellans), Aug. 27. F.C.
,, præstans alba (Bull), Oct. 8. F.C.
Lælia-Cattleya Palles × (Veitch), Dec. 10. F.C.
Lilium Martagon album (Barr), June 25. F.C.
,, pardalinum var. luteum (Veitch), July 9. F.C.
,, Wallichianum superbum (Low), June 25. F.C.
Lycaste plana var. Cumminsi (Smee), Oct. 8. A.M.
,, Schilleriana (Lawrence), April 9. F.C.
Masdevallia Ellisiana (Veitch), June 25. F.C.
,, vespertilio (Smee), Sept. 17. B.C.
Maxillaria fuscata (Lawrence), July 23. B.C.
Mignonette Garaway's Double White (Garaway), April 23. A.M.
Miltonia vexillaria Leopoldi (Schroder), Sept. 17. F.C.
,, ,, purpurea (Tautz), April 9. F.C.
Mimulus grandis (Dean), May 14. A.M.
Nægelia (Gesnera) pyramidale (Cannell), Aug. 13. A.M.
Nepenthes Curtisii superba (Veitch), Aug. 13. F.C.
Odontoglossum grande, Tautz's var. (Tautz), Oct. 22. A.M.
,, Pescatorei var. (Jackson), Feb. 12. A.M.
,, Thomsonianum (Pollett), April 23. F.C.
Oncidium crispum var. grandiflora (Charlesworth), July 9. F.C.
,, bifolium (Sander), April 9. A.M.
,, hæmatochilum (Sander), May 30. B.C.
,, superbiens (Lawrence), Mar. 26. F.C.
Ophrys Bertolinii (Lawrence), April 23. B.C.
Pæonia Moutan Agenoria (Kelway), May 30. A.M.
,, Leonard Kelway (Kelway), May 30. A.M.
,, lobata (?) (Ware), May 30. F.C.
,, Princess Christian (Kelway), June 11. A.M.
,, ,, Irene (Kelway), June 11. A.M.
Pansy (bedding) Golden Crown (Dean), May 14. A.M.
Papaver nudicaule sulphureum (Ware), Aug. 27. A.M.
Pelargonium Duke of Fife (Hawkins & Bennett), Aug. 13. A.M.
,, Indian Yellow (Foster), May 30. A.M.
,, Souvenir de Mirande (Cannell), May 30. A.M.
Physosiphon Loddigesii (Tautz), July 9. B.C.
Pink Her Majesty (Hooper), May 14. F.C.
Ponthieva maculata (Lawrence), May 14. B.C.
Primrose Blue Gem (Dean), Mar. 12. F.C.
,, G. F. Wilson (Wilson), April 23. A.M.
,, Quakeress (Wilson), April 23. A.M.
,, The Mikado (Dean), Mar. 26. F.C.
Primula sinensis Imperial White (Owen), Mar. 12. F.C.
,, ,, Miss Inez (Knight), Jan. 15. A.M.
,, ,, Princess Mary (Cannell), Jan. 15. A.M.
,, ,, Swanley Mauve (Cannell), Jan. 15. F.C.
,, petiolaris (Foster), Mar. 12. A.M.
,, Sieboldi var. General Gordon (Ryder), April 23. A.M.
,, ,, ,, Miss Nellie Barnard (Ryder), April 23. A.M.
,, ,, ,, Mrs. Ryder (Ryder), April 23. A.M.

Primula Sieboldi var. Queen of the Whites (Ryder), April 23. A.M.
,, viscosa splendens (Ryder), April 23. A.M.
Pteris leptophylla princeps (May), Oct. 22. F.C.
,, serrulata densa (May), Aug. 27. F.C.
,, ,, plumosa (Coleman), July 23. F.C.
,, tremula Smithiana (Smith), Aug. 13. F.C.
Pyrethrum Albert Victor (Kelway), May 30. A.M.
,, Pericles (Kelway), June 11. A.M.
Retinospora filifera aurea (Veitch), July 9. F.C.
Rhodanthe maculata alba (Veitch), July 9. F.C.
,, maculata fl. pl. (Veitch), July 9. F.C.
Rhododendron Aspasia (Veitch), Oct. 8. A.M.
,, Duchess of Fife (Veitch), Aug. 13. A.M.
,, Her Majesty (Veitch), April 23. F.C.
,, Ophelia (Veitch), Aug. 27. A.M.
,, Virgil (Veitch), Sept. 27. A.M.
Rose Claire Jacquier (W. Paul & Son), April 23. A.M.
,, Gloire de Margottin (Lane), April 9. A.M.
,, Silver Queen (W. Paul & Son), May 14. F.C.
,, Souvenir de S. A. Prince (Prince), June 11. F.C.
Saccolabium cerinum (Moore), May 14. B.C.
Sarracenia decora (Williams), Aug. 27. F.C.
Satyrium carneum var. roseum (Ware), Aug. 27. F.C.
Saxifraga Malyi (Paul & Son), Mar. 26. F.C.
Shortia galacifolia (Elwes), Mar. 26. F.C.
Sobralia xantholeuca var. alba (Veitch), July 23. F.C.
Spiræa gigantea (Paul & Son), July 23. F.C.
Struthiopteris pennsylvanica recurva (Birkenhead), May 30. F.C.
Sweet Peas (for strain) (Eckford), July 23. A.M.
,, Williams (for strain) (Walker), July 9. A.M.
Taxus adpressa variegata (Fisher, Son, & Sibray), Aug. 27. F.C.
Tritonia securigera (O'Brien), Aug. 13. B.C.
Tulipa Leichtlini (Paul & Son), April 23. F.C.
Vanda Amesiana (Hill), Jan. 15. F.C.
,, Kimballiana (Lawrence, Low), Aug. 13. F.C.
Verbascum olympicum (Loder), June 11. F.C.
Veronica Fairfieldi (Thomson), May 30. F.C.
Watsonia rosea (Ware), Aug. 27. F.C.
,, iridifolia O'Brieni (O'Brien), Sept. 17. F.C.

INDEX.

Abies bracteata, xxxix
,, Nordmanniana, xcii, ci
Acineta maculata, lxix
Aciphylla squarrosa, lxxvii
Amaryllis Acquisition, xxxv
,, John Ruskin, xxxv
,, Sea Nymph, lx
,, Terentian, xli
Amorphophallus Titanum, xci
Angræcum Chailluanum, cxiii
Annual Meeting, v
Anoiganthus breviflorus, xlvii
Anthurium leodense, cxxi
Apple, Lady, cxxx
Apples, Grafting Experiments, 13
,, Stocks for, 13
Asarum species, lxxxvi
Asters, China, 15
Athyrium f. f. regale, lxxvii
Aubrietia Leichtlinii, lx
Auricula, The, 107
Balance Sheet, 1888, xiv
Banksia malformed, lxx
Barley Smut, xxxix
Batrachospermum moniliforme, lxxxvi
Begonia A. Blanc, cvi
,, Duchess of Teck, lxvi
,, Frank Beadle, cxix
,, Lady H. Cavendish, lxxvii
,, Mrs. Cayzer, cvi
,, ,, Chamberlain, lxxxiii
,, ,, Litchie, cvi
,, ,, A. Moens, cxix
,, Rosebud, lxxvii
,, Sir W. C. Brookes, lxxvii
,, Stanstead Gem, lxvi
Bignonia Cherere, xcviii
Books received 1888, xviii, xxv
Botrytis on Lilies, xxxix
Bouvardia Hogarth, cxi
,, Mrs. Robert Green, xcviii
Brassia caudata, lxix
Bulbs, Dormant, lxxxv
Burmese Potatoes, 4
Caladium Raymond Lemoinier, lxxvii
Campanula Medium calycanthema, xcv
Capsicum Coral Red, xciv
Carex variegata, cxxvi
Carludovica palmifolia, cx
Carnation Mrs. F. Watts, xcv
,, Origin of, 304
,, Winter Cheer, cxxxvii
Catasetum barbatum proboscidium, liii
Cattleya Brymerianum, lxxix
,, Gaskelliana, lxxxix
,, Mendelii, lxiii, lxxix, xcvi
,, Miss Harris, cxvi
,, Trianæ, xliv
,, Warscewiczii, cxxiii
Ceratitis citriperda, cxxx
Ceropegia Sandersoni, cxxi
Certificates, xxvi
Chinese Asters, 15
,, Potatoes, 4
Chrysanthemum, Monstrous, cxxxiv
Chrysanthemums:
  Admiral Sir T. Symonds, cxxxiii
  Alice Stevens, cxxxiii
  Annie Clibran, cxxxiii
  Annie Stevens, cxxxiii
  Aurora, cxxxiii
  Bombardier, cxxxiii
  Dorie, cxxi
  Effie, cxxxiii
  Etoile de Lyon, cxxxii
  Eynsford White, cxxvi
  Golden Shah, cvi
  James Weston, cxxxiii
  L'Automne, cxxxiii
  Lune Fleuri, cxxxiii
  Maud Pitcher, cxi
  Miss M. A. Haggas, cxxxii
  Mme. E. A. Carrière, cxxxiii
  Mons. Bernard, cxxxiii
  ,, Charles Lebocqz, cxxvi
  Mrs. Alpheus Hardy, cxxxii
  ,, Falconer Jameson, cxxxiii
  ,, Judge Benedict, cxxxii
  Nelson, cxxvi
  Rose Owen, cxxxiii
  Souvenir de Londres, cxxxiii
  Stanstead Surprise, cxxvi
  Stanstead White, cxxxiii
  Thomas Stephenson, cxxxiii
  Violet Tomlin, cxxxii
  W. Neville, cxxvi

Clematis vitalba, cxxxvi
Clivia John Laing, xli
,, Lady Wolverton, xxxv
Cocoanut coccus, xlv
Cœlia bella, cxxxviii
Cold Storage of Fruit, 23
Coleus Cleopatra, cxv
,, Eureka, lx
Conifers, 320
,, Diseases of, 334
,, Names of, 331, 332
Cornus sibirica Späthi, xcviii
Crinum Kirkii, lxvi
Crocus, ephemeral roots, xl
Cultivated Saxifrages, 27
Cultivation of Saxifrages, 37–40
Culture of Strawberries, 156
Cunonia capensis, lxvi
Cyclamen Prince of Wales, xxxv
Cymbidium eburneo-Lowianum, xxxv
Cypripedium Galatea majus, cxxxix
,, Lathamianum, xxi
,, Niobe, cxxxix
,, nitidissimum, lxiii
,, picturatum, cxxiii
,, Rothschildianum, xxxiv
,, T. B. Haywood, cxxxix
Cyrtanthus sanguineus, cxix
Cyrtomium falcatum Fensomi, xcviii
Dactylopius in Egypt, cxlii
Daffodils, 70
,, Rot of, lvi
Dahlia Alice Emily, cxii
,, Centenary, cxv
,, Conquest, cxv
,, Crimson Globe, cxii
,, F. L. Temple, cxi
,, Gulielma, cxv
,, Hester Dorothea, cxv
,, James Scobie, cvi
,, John Hickling, cxii
,, Marchioness of Bute, cxi
,, Marmion, cxv
,, Panthea, cxi
,, Reliance, cxii
,, W. C. Harvey, cvi
Decorative Roses, 194
Delphinium Arditi, lxxxiii
,, Banquo, lxxxviii
,, Britannia, lxxxviii
,, Faust, lxxxiii
,, Orbit, lxxxiii
,, Regalia, lxxxiii
,, Sir T. Lawrence, lxxxiii
,, The Shah, lxxxiii
Dendrobium euosmum leucopterum, liii
,, melanodiscus, xliv
Dendrobium micans, xliii
,, revolutum, xcix
Dianthus, 304
,, Snowflake, cxvi
Diplosis pyrivora, lxxxvi
Disa lacera, iv
Disperis Fanniniæ, cxvi
Disuća Grape, 4
Donations, List of, xviii
Dormant Bulbs, lxxxv
Doucin Stock, 13
Dracæna Doucetti, lxvi
Dutch Hyacinths, 49
Epidendrum sceptrum, cxxvii
Epiphyllum Makoyanum, lix
Evergreen Hedges of Conifers, 333
Excæcaria Fruits, cxliii
Experiments in Grafting, 13
Ferns, Hybrid, liv
Fog, Effect on Plants, xlv, lvii, cxxx, cxlii
Fragaria, 150
Fraxinus monophylla, iv
,, fasciated, iv
Fritillary Bulbs dormant, lxxxv
Frost injuring Trees, xlvii, xxxviii
Fruit, Cold Storage of, 23
Fuchsia, Dorothy Fry, lxxxiii
Galanthus Elwesi, xxiv, xxxix, xlvi
Galls on Eucalyptus, lxiv
Garden Roses, 175, 194
Gentiana Amarella, cxxxi
Gladiolus Alsace, cvi
,, André Chenier cvii
,, Duchess of Fife, cxi
,, nanceianus, cv
,, Vulso, cxi
Grafting Experiments, 13
Grapes, Blaue Urbanitraube, 3
,, Blue Cologne, 3
,, Count of Meran, 1
,, Disuća, 4
,, Grey Cologne, 3
,, Hungarian, 1
,, Large Cologne, 3
,, Magnifique de Nikita, 3
,, Malaga, 2
,, Mrs. Pearson, ii
,, Muscat Bretonneau, 3
,, Musket, 4
,, Ökörszem Fehér, 1
,, Öreg Kadarka, 2
,, Öreg Tárdovány, 2
,, Stockwood Golden Hambro', 2
,, Uva regina rubra, 1
,, Volovna, 2
Hæmanthus hirsutus, cxliii
Hedges, Evergreen, 333

Hippeastrum, Double, lxxxvi
Hoar Frost injuring Trees, xxxviii, xlvii
Hollyhock Delicata, cxi
Hungarian Grapes, 1
Hyacinths, Best Varieties of, 69
,, cultivated in England, 63
,, ,, ,, Holland, 54
,, History of, 49
,, Yellow Hammer, xlii
Hybrid Ferns, liv
Hybridisation of Roses, 209
Icerya Purchasi, iii
Indian Roses, 229
Irises, 131
Iris lævigata, xciv
,, Rosenbachiana, xxxv
Kachin Potatoes, 4
Keeping Fruit in cold, 23
Lælia autumnalis alba, cxxix
,, Dellensis, lxxix
,, Digbyana-Mossiæ, lxvii
,, elegans, cxiii
,, præstans alba, cxxii
,, purpurata, dimerous, lxxxvi
,, Cattleya Palles, cxxxix
Lilium martagon album, lxxxviii
,, pardalinum luteum, civ
,, Wallichianum superbum, lxxxviii
Lycaste plana, cxxiii
,, Schilleriana, liii
Magnifique de Nikita Grape, 3
Malaga Grape, 2
Market Strawberries, 156
Masdevallia Ellisiana, lxxxix
,, vespertilio, cxvi
Maxillaria fuscata, xcix
Mignonette Garaway's Double White, lx
Miltonia vexillaria Leopoldi, lxvi
,, ,, purpurea, liii
Mimulus grandis, lxvii
Muscat Bretonneau Grape, 2
Musket Strawberries, 156
Nægelia pyramidale, cvi
Narcissus, Best Varieties, 91, 101
,, Culture of, 87
,, Double, 88
,, History of the, 70
,, Hybrid, 80
,, Portuguese, 103
,, Seedlings, 85, 93
,, Species, 78
Nectarines, 310
Nepenthes Curtisii superba, cv
Notes on Saxifrages, 27
Odontoglossum grande, cxxvii
,, Pescatorei, xx
Odontoglossum Thomsonianum, lxii
Ökörszem Fehér Grape, 1
Oncidium bifolium, liii
,, crispum var. grandiflora, xcv
,, hæmatochilum, lxxix
,, superbiens, xliii
Ophrys Bertolinii, lxii
Orchid Bug, iii
,, Culture, 115
,, Nomenclature, 130, lxxxiv
Öreg Kadarka Grape 2
,, Tárdovány Grape, 2
Oxalis sp., liv, lxiii
Pæonia Moutan Agenoria, lxxvii
,, Leonard Kelway, lxxvii
,, lobata (?), lxxvii
,, Princess Christian, lxxxiii
,, ,, Irene, lxxxiii
Pansy Golden Crown, lxvii
Papaver nudicaule sulphureum, cxi
Paradise Stock, 13
Peaches, 310
,, with Scale Insect, lxx
Pears, 339
Pelargonium Duke of Fife, cvii
,, Indian Yellow, lxxvii
,, Souvenir de Mirande, lxxvii
,, disease, cii
Physosiphon Loddigesii, xcvi
Pinetum, Formation of, 322
Pink Her Majesty, lxvi
Pinus austriaca, c
,, Ayacahuité, cxliii
Plants presented, xix, xxv, cxliv
Poa pratensis, xcii
Ponthieva maculata, lxix
Potatoes, Burmese, 4
,, Chinese, 4
,, Kachin, 4
,, Shan, 4
Primrose Blue Gem, xxxv
,, G. F. Wilson, lx
,, Quakeress, lx
,, The Mikado, xlii
Primroses, Blue, lv
Primula petiolaris, xxxv
Primula Sieboldi:
General Gordon, lx
Miss Nellie Barnard, lx
Mrs. Ryder, lx
Queen of the Whites, lx
Primula sinensis:
Imperial White, xxxv
Miss Inez, ii
Princess Mary, ii
Swanley Mauve, i
Viscosa splendens, lx

Pruning Pears, 334
,, Roses, 165
Pteris leptophylla princeps, cxxvi
,, serrulata densa, cx
,, ,, plumosa, xcviii
,, tremula Smithiana, cv
Pyrethrum Albert Victor, lxxvii
,, Pericles, lxxxiii
Report of the Council 1888, viii
Retinospora filifera aurea, xciv
Rhodanthe maculata alba, xciv
,, ,, fl. pl., xciv
Rhododendron Aspasia, cxxi
,, Duchess of Fife, cvi
,, Her Majesty, lx
,, Ophelia, cxi
,, Virgil, cxix
,, and Azalea hybrids, cxxix, cxxxv
,, Hybrid, cxli
Rhubarb varieties, 20
Rime on Trees, xlvii
Rosa canina var., 205
,, polyantha, 201
,, simplicifolia, lxxxvi, xci
Rose Claire Jacquier, lx
,, Conference, 162
,, Gloire de Margottin, l
,, Lancastrian, ciii
,, Silver Queen, lxvii
,, Souvenir de S. A. Prince, lxxxiii
Roses, Australian, 229
,, Books on, 301
,, Botany of, 205
,, Classification of, 175, 217
,, Construction of, 228
,, Decorative, 194
,, Groups of, 175, 217
,, Hybridisation of, 209
,, Indian, 229
,, Pruning, 165
,, since 1860, 189, 209
,, Species of, 300
,, Statistics of, 231, 287
,, Stocks for, 185, 201, 299
,, Synonyms, 283
Rubus occidentalis, ciii
Saccolabium cerinum, lxix
Sarracenia decora, cx
Satyrium carneum, cxi
Saxifraga Malyi, xli
Saxifrages, Cultivated, 27
,, Cultivation of, 37, 40
,, Hybrid, 36
,, List of Cultivated, 32
Sclerotinia on Snowdrops, lv
Seedling Sugar-canes, cxlii
Seeds presented to R.H.S., xix, xxv, cxliv
Shan Potatoes, 4
Shortia galacifolia, xlii, xlvii
Shrubs, Coniferous, 320
Skimmia Fortunei, lxx
,, japonica, xxiv, xxxiv
Sobralia xantholeuca, var. alba, xcix
Spiræa gigantea, xcviii
Stocks, 22
Stocks for Apples, 13
,, ,, Roses, 185, 201, 299
Stockwood Golden Hambro' Grape, 2
Storage of Fruit, 23
Strawberries for Market, 160
Strawberry, The, 150
Struthiopteris pennsylvanica recurva, lxxvii
Sweet Peas, xcix
,, Williams, xcv
Taxus adpressa variegata, cx
Temperature, lxiv
,, Underground, lvii
Tomatoes, 6
Torreya myristica, lxxxvi
Trees, Coniferous, 320
,, injured by Frost, xxxviii
Tritonia securigera, cvii
Tulipa Leichtlini, lx
Underground Temperature, lvii
Ustilago segetum, xxxix
Uva regina rubra Grape, 1
Vanda Amesiana, i
,, Kimballiana, i
Verbascum olympicum, lxxxiii
Veronica Fairfieldii, lxxvi
Vine leaves rot, lvi
Volovna Grape, 2
Watsonia iridifolia O'Brieni, cxv
,, rosea, cxi
Winter Moth, Capture of, iv, lxx

THE
ROYAL HORTICULTURAL SOCIETY.

Patron:
HER MOST GRACIOUS MAJESTY THE QUEEN.

COUNCIL, 1888-9.*

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* The Council for 1889—90 will be elected at The Annual Meeting to be held on February 12th, 1889.

THE ROYAL HORTICULTURAL SOCIETY.

THIS Society was incorporated in 1809 by a Royal Charter granted by His Majesty King George the Third to several noblemen and gentlemen, "for the Improvement of Horticulture in all its branches, ornamental as well as useful." It is composed of Fellows, Honorary, Corresponding, and Foreign Members; and its affairs are managed by a President and Council of fifteen members elected annually on the second Tuesday in February from among the general body of Fellows.

The Gardens of the Society are situated at Chiswick, a short and convenient distance from London, being easily accessible by rail, &c. (see pages 6 and 7).

The Gardens of the Society are devoted to useful and scientific experiments and trials, connected with the growth of fruits, flowers, vegetables, and plants of garden value and interest; the results of such experiments and trials will be published in the Society's Journal. The Gardens are also open to the Fellows to make personal inspection of the various plants under trial, and observation of the experiments which may be in progress.

Meetings* of the Society are held bi-monthly during the spring and summer months, and monthly during the autumn and winter. At these meetings new or notable fruits, flowers, vegetables, and plants are exhibited, and their merits adjudicated on by Committees. The meetings are open to the Fellows at 12 o'clock, and to the public on a small payment at 1 p.m. At 3 o'clock, on most of these occasions, a short popular lecture on the culture of some of the plants exhibited, or on some other points of interest will take place, and discussion amongst the Fellows is invited. These meetings are held either in the Society's Gardens at Chiswick; or in the Drill Hall of the London Scottish

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* For place and date of meeting, see p.16.

Volunteers, James' Street, Victoria Street, Westminster, close to the St. James's Park Railway Station; or at such other place as the Council may determine.

The Offices of the Society are situated at 117, Victoria Street, Westminster, where also is kept the Society's Library, and the invaluable Horticultural and Botanical Library purchased by the Lindley Library Trustees, from the executors of the late Dr. Lindley. These libraries are always open to Fellows during office hours (10 a.m. to 5 p.m.), and books may be borrowed under certain regulations. Fellows will also find writing materials in the library, and a selection of the leading horticultural newspapers.

The Society's Journal, which will be published periodically, contains the reports of the various trials of plants, &c., in the Society's Gardens at Chiswick, and the results of the experiments made there. In it also are published notes of the meetings of the Scientific Committee, and answers to any questions of general interest which may have been addressed to them, together with the awards made by the Council on the recommendation of the Fruit and Floral Committees to any new plants, &c., which may have been brought before them; and other matters of horticultural interest.

The officers of the Society will be ready at all times to afford any information and assistance in their power to any of the Fellows on matters of horticultural interest, whilst the Scientific Committee will gladly report on the nature of any botanical or diseased, abnormal, or curious specimens of plants, &c., which the Fellows may submit for their notice.

The Society invites, and continues to be indebted to many friends for donations of books, plants, and seeds, the latter occasionally supplying plants of great horticultural interest.

W. WILKS, M.A.,

Honorary Secretary.

117, Victoria Street,

Westminster,

Election and Privileges of Fellows,

AND

TERMS OF SUBSCRIPTION.

1. Any person interested in Horticulture is eligible for election as Fellow.

2. Candidates for election must be proposed by two Fellows of the Society. Forms for proposing new Fellows may be obtained at the Office, 117, Victoria Street, Westminster, or will be forwarded by post on application to the Secretary.

3. All Fellows are entitled to attend and to vote at all meetings, and, subject to the necessary regulations and hours, to personal admission to the Gardens, Exhibitions, &c., and to the use of the Society's Rooms and of the Libraries, at 117, Victoria Street; to a copy of the Society's Journal, and also to purchase such fruit and vegetables grown at Chiswick as are not required for the purposes of the Society. (N.B.—The Journal *will be posted* to such Life Fellows *only* as make written request to the Secretary that it should be so sent.)

4. *Besides the above*, Fellows are also entitled to the following additional privileges varying according to their rate of subscription, viz:—

Fellows subscribing £4 4*s.* a year are entitled to a Family Ticket admitting five persons to Chiswick Gardens, and to all the Society's Exhibitions and Meetings at 12 o'clock, being an hour earlier than the general public.

Fellows subscribing £2 2*s.* a year are entitled to a transferable Ticket admitting two persons to all the Exhibitions and Meetings at 12 o'clock, and admitting three persons to Chiswick Gardens on all ordinary days.

Fellows subscribing £1 1*s.* a year are entitled to a transferable Ticket, admitting three persons to Chiswick Gardens on all ordinary days.

⁂ £4 4*s.* and £2 2*s.* Fellows should receive their own personal Fellow's Pass, *as well as* the transferable Ticket, to which they are also entitled.

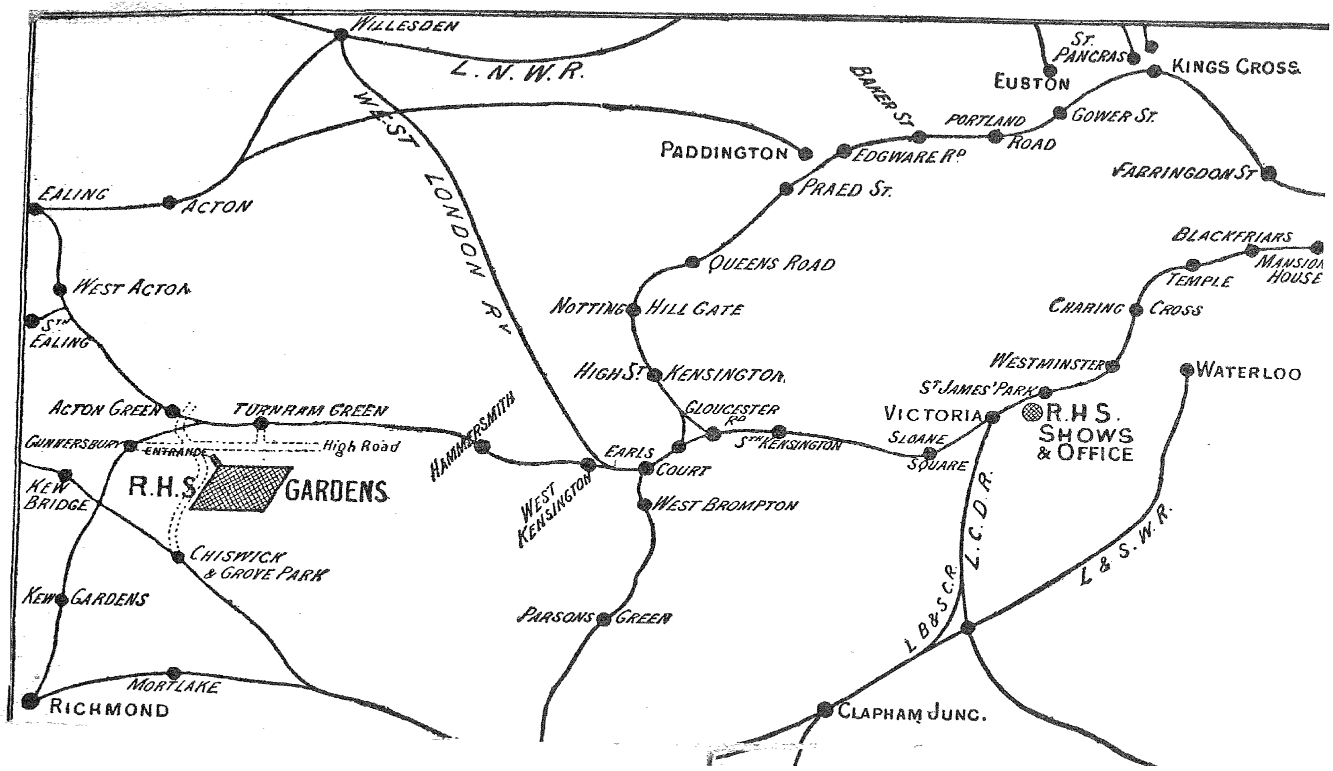
Associates: Any bonâ fide Gardeners or Employés in a Nursery Market Garden or Seed Establishment may be appointed Associates of the Society. Candidates for Associateship must be recommended to the Council by two Fellows of the Society, one of whom is personally acquainted with the candidate. An Associate subscribing Half-a-guinea a year is entitled to personal admission to the Society's Gardens at Chiswick, and to all Exhibitions and Shows.

No Fellow or Associate is entitled to any privilege until the payment of his subscription has been completed, which payment will be considered as distinctly implying acquiescence in all the Rules, Regulations, and Bye-laws of the Society.

The Society being incorporated by Royal Charter, the Fellows incur no personal liability whatsoever, beyond the payment of their Annual Subscriptions.

NOTE.—Any lady or gentleman desirous of joining the Society may obtain Nomination Forms and full particulars on application to the Secretary, at the Society's Office, 117, Victoria Street, Westminster.

Copies of the Society's Bye-Laws may be obtained on demand at the Office.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PARSONS GREEN
L B & S C R.
MORTLAKE
RICHMOND
CLAPHAM JUNC.

DIRECTIONS
TO
Fellows of the Society and others
WISHING TO VISIT THE
SOCIETY'S GARDENS AT CHISWICK.

1. In coming from *Victoria, Charing Cross, or any Station on the Metropolitan District Railway,* book to ACTON GREEN, and travel by the Ealing trains, which run every half-hour; or by intermediary trains, changing at EARL'S COURT; or by Richmond trains to TURNHAM GREEN, every hour.

2. From *Waterloo, Clapham Junction, and Stations on the South-Western Railway,* book to CHISWICK STATION. Trains about every hour.

3. From *Brixton, Clapham, Chelsea, &c.,* book to TURNHAM GREEN. Trains about every hour.

4. From *Liverpool Street, and Stations on the Great Eastern Line,* book from Broad Street to GUNNERSBURY, and travel by Richmond train, trains every hour; or from *Bishopsgate (Metropolitan)* to TURNHAM GREEN, trains every hour.

5. From *Great Northern and Midland Railways* book from *King's Cross (Metropolitan)* to TURNHAM GREEN, and travel by Richmond train. Trains every hour.

6. From *Willesden Junction and all Stations on the London and North-Western* book to GUNNERSBURY, and travel by the Richmond trains. Trains every hour.

7. From *Windsor, Reading, and all Stations on the Great Western,* change at Ealing, and take tickets for ACTON GREEN; or change at Westbourne Park and take tickets for TURNHAM GREEN, and travel by the Richmond train.

8. *Omnibuses and Tram Cars.*—There is a regular service of these from London (Piccadilly) through Kensington and Hammersmith every few minutes; also from Oxford Street, through Bayswater and Notting Hill. Passengers should alight at Turnham Green Church, opposite and close to the Gardens.

Cabs in waiting at Turnham Green and Gunnersbury Stations.

REGULATIONS

FOR THE

Admission of Visitors to the Gardens.

Fellows of the Society have free personal admission to the Gardens on all occasions when the gates are open, including all exhibitions and meetings.

Visitors are admitted on the introduction of Fellows, by presenting the Fellow's transferable Ticket, or on ordinary days by payment of sixpence.

A Four Guinea Fellow's transferable Ticket will admit five to the Gardens, Meetings, and Shows. The Two Guinea and One Guinea Fellows' transferable Tickets will admit three.

Children are not admitted unless accompanied by a grown person, who will be held responsible for their conduct while in the Gardens.

Students and Gardeners may obtain orders on application to the Secretary of the Society, which will secure them special facilities for observation and study.

The Gates open daily (Sundays and Holidays excepted) at 9 a.m., and close at sunset. On Sundays, the Gardens are open to Fellows from 1 p.m. till sunset, from May 1st to October 31st.

CHISWICK GARDENS.

1889.

THE Council being desirous of making the Society's Gardens at Chiswick (as far as the funds at their command will allow) a School of Practical and Scientific Horticulture, "ornamental as well as useful," and of increased value and interest to the Fellows, have devoted their careful attention to the present condition of the Gardens, and to a scheme for their future better utilisation. They are of opinion that such a garden should be devoted (1) to the cultivation of such fruits, vegetables, and decorative plants and flowers as it may seem expedient to draw the particular attention of the Fellows to at the moment, and varying from time to time; (2), to the trial of new sorts side by side with established varieties; (3), to such experiments in the culture and treatment of plants as have a gardening as distinguished from a merely scientific value and interest. To these may be added (4) the trial of horticultural appliances and materials. And it is evident that these trials and experiments, and the experience gained, are of comparatively little general interest, value, or use, unless they can be periodically and regularly published for the direct information of the Fellows. With this purpose in view, the Council propose to at once recommence the publication of the Journal of the Society's transactions.

The cultivation, trial, &c., of fruits must always be of the utmost importance, and happily forms one of the most valuable features of the Gardens at present. There is a good collection of the best varieties of fruits, and it is intended to maintain this and extend it by the trial of such novelties as the raisers may be good enough to bestow on the Society. A list of the varieties of the different fruits already in the Gardens will be published in an early number of the Journal in order to avoid duplicates being sent, and to enable Fellows to send fruit for comparison and verification of name, &c.

The grapes in the Great Conservatory and in House No. 12 afford at all seasons ready examples of, and instruction in, successful grape culture, which might be of service to many of the Fellows. House No. 13 is to be planted with Muscats, and will be similarly useful and instructive. House No. 15 is to be devoted to the high-flavoured but greatly neglected Frontignan grapes, in the hope of directing attention to these most delicious though somewhat small-berried fruits.

It is proposed that one of the houses should be furnished with fruit trees in pots, as their culture would be extremely interesting to many Fellows, and experiments in treatment are more readily carried on with pot plants.

The different methods or systems of pruning and training fruit trees will be illustrated to the fullest extent, and experiments made in grafting on various kinds of stocks, and the results carefully observed.

A collection of standard and typical varieties of different vegetables will be grown (as far as space permits) for comparison with new varieties, and both to assist the Committee in recommending their awards, and for the general information of the Fellows. Besides this general collection, specially exhaustive trials of certain classes of vegetables will be made every few years in rotation, and descriptive reports given. The special classes proposed for 1889 are Brocoli, Cauliflower, Brussels Sprouts, Broad Beans, and Gourds. The production of winter and early salading will also be illustrated as being considered a subject that does not at present receive sufficient attention in many English gardens.

The Floral department will include all plants and flowers of a distinctly decorative garden character, whether for cultivation under glass, or out of doors. A few classes only can be illustrated each year. For 1889 it is proposed to take Gloxinias, Pelargoniums (Show, Fancy, and Decorative), and Chrysanthemums; the most decorative varieties of Ferns, hardy and exotic, with a view to a Fern Conference in 1890; Dahlias, Cannas, Summer Chrysanthemums; Hardy Herbaceous Plants; Alpines; Carnations and Pinks with a view to a Carnation trial in 1890. A very large collection of Herbaceous Pæonies is also in process of being made, and will, it is hoped, in 1890—91 be an object of great interest and instruction. It is also proposed to show the utility of Annuals for inexpensive garden decoration, by illustrating with a few classes the varied effects of Autumn sowing for Spring flowering, and Spring sowing for Autumn blooming.

As opportunity offers experiments will be conducted with, and trial made of, all sorts of articles and appliances used in the management or work of a garden, *e.g.*, manures (*see* special trial, page 11); insecticides; mowing machines; garden tools; systems of glazing, ventilating, heating, &c., and reports will be published thereon.

The condition of the glasshouses is one which the Council deplore, but which the funds at their command give them at present no means of remedying; they hope, however, that a large influx of new Fellows may before long enable them to make great improvements; indeed, it is evident that without a considerable increase in the Society's income, only a comparatively small part of this programme can be accomplished.

The officials of the Society will give any information, and render every assistance in their power to all Fellows. Any one wishing to study any particular branch of the gardening operations, or to make any special observations of different subjects, should make direct application to Mr. Barron, the Society's Superintendent at Chiswick, or to the Honorary Secretary.

Gifts of Fruit trees, Plants, Seeds, Appliances, &c., will at all times be welcomed, and will be duly acknowledged in the Society's Journal.

Royal Horticultural Society.

Members of the Council.

Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, *President*.

Colonel Beddome, West Hill, Putney.

R. S. Bourne, Esq., The Duke of Bedford's Estate Office, Covent Garden.

Sydney Courtauld, Esq., Bocking Place, Baintree.

W. Coleman, Esq., Eastnor Castle, Ledbury.

James Douglas, Esq., Great Gearies, Ilford.

T. B. Haywood, Esq., Woodhatch, Reigate.

D. Morris, Esq., M.A., F.L.S., Kew, *Treasurer*.

George Paul, Esq., Cheshunt, Herts.

H. J. Pearson, Esq., Beeston, Notts.

T. Francis Rivers, Esq., Sawbridgeworth.

Baron Henry Schröder, The Dell, Staines.

A. H. Smee, Esq., Wallington, Surrey.

Sir Charles Strickland, Bart.. Hildenley Hall, Malton.

Rev. W. Wilks, M.A., Shirley Vicarage, Croydon, *Secretary*.

Foreign Corresponding Secretaries.

Dr. Robert Hogg, LL.D., F.L.S.

Dr. Maxwell T. Masters, M.D., F.R.S., F.L.S.

EXPERIMENTAL TRIAL

OF

ARTIFICIAL MANURES AT CHISWICK, 1889.

A TRIAL of Artificial Manures having been frequently proposed as likely to prove of great public utility, and it appearing that such a trial might be suitably instituted in the Society's Gardens at Chiswick, the Council have set apart a plot of ground for the purpose in the year 1889, subject to the following conditions and regulations:—

The ground selected is in an open situation, the soil is a firm garden loam, quite free from recent manure, and has been under strawberries for the past three years. It is of equal texture and quality throughout.

For the purpose of the manure trial, it will be divided by a walk down the centre, on one side of which certain selected crops will be grown by the aid of the manures entered for trial, and on the other side, crops of precisely the same kinds will be grown without manure, for comparison of results.

For each manure to be tried, a breadth of 10 feet, with a run of 45 feet (including manured and unmanured plots), will be apportioned, and each plot will be treated in precisely the same manner as to crops selected, dates of planting and harvesting, and general cultivation; in fact, every detail will be so ordered as to ensure the most perfect uniformity of treatment and conditions.

The breadth of 10 feet will be lined out for three rows of plants, to consist of one row of one kind of Cabbage, one row of one kind of Red Celery, and one row of one kind of Turnips.

The several manures having been distinctly specified in the terms of entry, will be purchased for the purpose by the Society's Agent in the open market, for and at the expense of the Society. The seeds or plants required will also be obtained at the expense of the Society, and the same stocks will be employed throughout.

On the maturation of the several crops, a critical examination will be made, and this will be completed by a register of the total weights of the produce of each row, distinguishing in respect of weight, &c., the produce of the half row grown with the manure, and the corresponding half row grown without. The results will be made public as soon as possible after the completion of the trials.

The entire management of the trials will be in the hands of the Society, and will be subject to the supervision of the Chiswick Garden Committee.

In order to cover the expenses attending these trials, every entry of a manure must be accompanied with a payment to the Society of the sum of £10, such payment being requisite to complete the entry.

Every entry must be accompanied with a statement on the authority of a known analytical chemist of the constitution or chemical analysis of the manure to be tried. The mode of manufacture and materials employed need not be stated, but the chemical composition is a matter of importance.

No trial will take place unless there be at least six entries of different manures.

Applications for places in the trial should be made without delay to Mr. A. F. Barron at the Society's Gardens, Chiswick.

No interference of any kind with any detail of these trials will be permitted, except under the advice and sanction of the Chiswick Garden Committee.

JOURNAL
OF THE
ROYAL HORTICULTURAL SOCIETY.

THE Council have decided to at once recommence the publication of the Society's Journal, in order that Fellows living at a distance may be kept acquainted with what the Society is doing, both at Chiswick and at Westminster. It is proposed to publish the reports of all trials and experiments made in the Gardens, and notes of all the Committee meetings and of the principal objects shown at the Drill Hall.

The Journal will be published under the joint editorship of the Treasurer, D. Morris, Esq., M.A., F.L.S., Kew; and the Hon. Secretary, The Rev. W. Wilks, M.A., Shirley Vicarage, Croydon, to the latter of whom any notes of interest should be sent.

The following back numbers of the Society's Journal may be obtained, as far as the remaining stock will allow, by any of the Fellows desiring them, by making personal application at the office, 117, Victoria Street, Westminster; but the Society cannot undertake any expense in their transmission by post or otherwise: Vol. vii., part 3, Old Series, 1852; New Series, Vols. i., ii., iii., iv., v., vi., a few copies complete, with the exception of part 14, Vol. iv., missing; The Orchid Report, Vol. vii., 1; The Primula Report, Vol. vii., 2: The Frost Report, Vol. viii.; The Pear Report, 1887, Vol. ix.

THE LINDLEY LIBRARY.

The Lindley Library is kept at the Royal Horticultural Society's Rooms at 117, Victoria Street, Westminster, and is open to all Fellows of the Society; special permission to use it may be obtained by Gardeners and other Members of the general public, on application to the Trustees or to the Hon. Secretary.

Donations of Horticultural and Botanical Books are requested, and any addition to the small fund at the disposal of the Trustees of the Lindley Library for library purposes would be welcome.

POPULAR
AFTERNOON MEETINGS AND LECTURES.

THE Council are of opinion that it is very desirable to re-establish the Afternoon Meetings of Fellows, for the discussion of subjects bearing upon the special exhibits of each day, as well as on Horticulture generally.

In order to have a suitable subject to which to direct the attention of Fellows, and to lead to useful and definite results, a programme will as far as possible be prepared for each day beforehand; and some-one specially associated with the subject in hand will be invited to open the proceedings.

These popular lectures will therefore be commenced on March 12th, when Mr. J. G. Baker, F.R.S., has been asked to read a short paper on Saxifrages, which will then be in flower, and which belong to the Herbaceous Department of Gardening, which is becoming increasingly popular.

On March 26th Herr Krelage, of Haarlem, or some other prominent grower, will be asked to speak upon Hyacinths.

On April 9th, Mr. Burbidge, F.L.S., of Trinity College Botanic Gardens, Dublin, will be invited to open a discussion on Narcissus.

On April 23rd, The Rev. F. D. Horner will read a paper on the Auricula, and Mr. J. T. D. Llewelyn on Primula Species.

On May 14th, Professor Michael Foster, Sec. R.S., will be asked to draw attention to Irises, which should then be in bloom.

On June 11th, Mr. Harry J. Veitch, F.L.S., will treat about Orchids.

On July 23rd, Mr. Shirley Hibberd will read a paper on the origin of the Florists' Carnation.

The subjects and names mentioned are merely provisional, and are given only as an illustration of what is hoped to be done at all these Popular Meetings, by means of which attention will be drawn to the work of the Society, and the sympathy and co-operation of the Fellows enlisted.

The papers read at these meetings, and the discussion that takes place will, as far as possible, be printed in the Society's Journal for the information of Fellows unable to be present.

CONTEMPLATED ARRANGEMENTS FOR THE YEAR 1890.

The Council of the Society have under consideration the suggestion of Trials of Carnations and Picotees at Chiswick, in the year 1890. Any persons who may be willing to send plants for trial should communicate with Mr. Barron. Three plants of each variety to be tried should be sent to Chiswick in the autumn of 1889. The result of the trials will be published in the Society's Journal.

The Council have also under consideration the holding of a Fern Conference in the summer of 1890, its object being more especially to direct attention to the best and most decorative varieties for cultivation, both out of doors and under glass.

The Council are very anxious to establish Local Sub-Committees of the Royal Horticultural Society, if possible, in every county in England, to report upon the state of Local Horticulture generally, and in particular to study and promote Local Fruit Culture.

ARRANGEMENTS FOR THE MEETINGS OF FELLOWS, AND FOR EXHIBITIONS AND SHOWS IN 1889.

All persons, whether Fellows or not, are invited to exhibit objects of interest at any of the Society's Meetings, &c.

January 15 . .	Fruit, Flowers, and Vegetables. Drill Hall.
February 12. .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Annual Meeting for Election of Council and Officers; At the Offices, 117, Victoria Street, 3 p m.
March 12. . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
March 26. . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
April 9 . . .	Fruit, Flowers, and Vegetables Drill Hall.
,,	Popular Lecture at 3 p.m.
April 23 . . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	*National Auricula Society's Show.*
,,	Popular Lecture at 3 p.m.
May 14 . . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
May 30 and 31.	Great Show. Temple Gardens. *See* p. 32.
June 11 . . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
June 25 . . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
July 2 and 3 .	National Rose Conference and Show. Chiswick.
July 9. . . .	Fruit, Flowers, and Vegetables. Chiswick.
,,	*Chiswick Horticultural Show.*
July 23 . . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	*National Carnation and Picotee Society's Show.*
,,	Popular Lecture at 3 p.m.
August 13 . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
August 27 . .	Fruit, Flowers, and Vegetables. Drill Hall.
September 17 .	Fruit, Flowers, and Vegetables. Drill Hall.
Sept. 24, 25, 26	Great Vegetable Conference, Chiswick.
October 8 . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
October 22 . .	Fruit, Flowers, and Vegetables. Drill Hall.
,,	Popular Lecture at 3 p.m.
Nov. 12 & 13 .	Chrysanthemum Centenary Conference, Chiswick
December 10 .	Fruit, Flowers, and Vegetables. Drill Hall.

⁂ Admission to all Fellows and by Fellows' transferable Tickets at 12; to the Public at 1 o'clock.

A short popular Lecture is given at 3 o'clock on the Cultivation of some of the Plants exhibited, or on some other points of Horticultural interest, and discussion amongst the Fellows is invited. New Fellows are elected at the 3 o'clock meeting.

DATES PLACES AND HOURS OF MEETING

OF THE

COUNCIL, 1889.

January 15th . .	In the Council Room	at 1 o'clock.
February 12th . .	do.	do.
March 12th . .	do.	do.
March 26th . . .	do.	do.
April 9th	do.	do.
April 23rd . . .	do	do.
May 14th . . .	do.	do.
May 28th . . .	do.	do.
May 30th	In the Temple Gardens	at 12.30 o'clock.
June 11th . . .	In the Council Room	at 1 o'clock.
June 25th . . .	do.	do.
July 2nd	At Chiswick	at 12.30 o'clock.
July 9th	In the Council Room	at 1 o'clock.
July 23rd . . .	do.	do.
August 13th . .	do.	do.
September 24th .	At Chiswick	at 12.30 o'clock.
October 8th . .	In the Council Room	at 1 o'clock.
October 22nd . .	do.	do.
November 5th . .	do.	do.
November 12th . .	At Chiswick	at 12.30 o'clock.
November 26th . .	In the Council Room	at 1 o'clock.
December 10th . .	do.	do.
December 17th . .	do.	do.

DATES, PLACES, AND HOURS OF MEETING OF THE SCIENTIFIC COMMITTEE, 1889.

MEMBERS of the Committee are requested to take note of the dates and places of meeting, as no further notice will be sent out.

January 15th . . .	In the Drill Hall,	at 1 o'clock.
February 12th . .	do.	do.
March 12th. . . .	do.	do.
March 26th . . .	do.	do.
April 9th	do.	do.
April 23rd	do.	do.
May 14th	do.	do.
June 11th	do.	do.
June 25th	do.	do.
July 2nd	At Chiswick	do.
July 23rd	In the Drill Hall	do.
August 13th . . .	do.	do.
October 8th . . .	do.	do.
October 22nd . . .	do.	do.
November 12th . .	At Chiswick	do.
December 10th . .	In the Drill Hall	do.

NOTE.—Fellows are requested to send any matters for inquiry to the meetings of the Scientific Committee, such as instances of diseases of, or injuries to plants caused by insects or otherwise, and any other subjects of horticultural or botanical interest. The specimens will be referred, if necessary, to experts, and as full reports as possible will be published in the Society's Journal, or forwarded to the senders. All such communications should be addressed "To the Secretary of the Scientific Committee, R. H. S., 117, Victoria Street, Westminster," and should, if possible, reach the Society's Office not later than the day preceding the meeting.

SCIENTIFIC COMMITTEE, 1889.

Chairman.

Sir JOSEPH DALTON HOOKER, K.C.S.I., M.D., C.B., F.R S, The Camp, Sunningdale.

Vice-Chairmen.

DYER, W. T. THISELTON, C.M.G., F.R.S., Royal Gardens, Kew.
FOSTER, Professor M., Sec. R.S., Great Shelford, Cambridge.
MASTERS, MAXWELL T., M.D., F.R.S., V.P.L.S , Mount Avenue, Ealing, W.

Hon. Secretary.

Rev. Prof. G. HENSLOW, M.A., F.L S., F.G.S, Drayton House, Ealing.

BAKER, J. G., F.R.S., Royal Gardens, Kew.
BERKELEY, Rev. M. J., F.R.S., Sibbertoft, Market Harborough.
BOSCAWEN, Hon. and Rev. J. T., Lamorran, Probus, Cornwall.
BURBIDGE, F. W., F.L.S., Trinity College Gardens, Dublin.
CHURCH, Professor A. H., F.R.S., Shelsley, Richmond.
DARWIN, FRANCIS, F.R.S., Wychfield, Huntingdon Road, Cambridge.
DOD, Rev. C. WOLLEY, Edge Hall, Malpas, Cheshire.
ELWES, H. J., F.L.S., F.Z.S., Preston House, Cirencester.
FRANKLAND, E., F.R.S., The Yews, Reigate Hill, Reigate.
GILBERT, J. H., Ph.D., F.R.S., Harpenden, Herts.
GODMAN, F. DU CANE, F.R.S., 10, Chandos Street, Cavendish Square, W.
LLEWELYN, J. T. D., F.L.S., Penllergare, Swansea.
LYNCH, R. IRWIN, A.L.S., Botanic Gardens, Cambridge.
McLACHLAN, R., F.R.S., Westview, Clarendon Road, Lewisham, S.E.
MICHAEL, ALBERT D., F.L.S., Cadogan Mansions, Sloane Square, S.W.
MÜLLER, HUGO, Ph.D., F.R.S., 13, Park Square East, Regent's Park, N.W.
O'BRIEN, JAMES, Harrow-on-the-Hill.
OLIVER, F. W., D.Sc., F.L.S., Royal Gardens, Kew.
PASCOE, F. P., F.L.S., 1, Burlington Road, Westbourne Park, W.
PLOWRIGHT, C. B., F.L.S., 7, King Street, King's Lynn.
SALVIN, OSBERT, F.R.S., Hawksfold, Fernhurst, Haslemere.
SCOTT, D. H., Ph.D.. F.L.S., 8, Thornton Hill, Wimbledon, S.W.
SYMONS, G. J., F.R.S., 62, Camden Square, N.W.
VEITCH, H. J., F.L.S., Royal Exotic Nursery, King's Road, Chelsea, S.W.
WARD, Professor MARSHALL, F.R.S., The Laurels, Englefield Green, Staines.
WILSON, GEO. F., F.R.S., Heatherbank, Weybridge Heath.

NOTE : Members of the Council are Members of all the Committees.

DATES, PLACES, AND HOURS OF MEETING

OF THE

FRUIT AND VEGETABLE COMMITTEE, 1889.

MEMBERS of the Committee are requested to take note of the dates and places of meeting, as no further notice will be sent out.

January 15th . . .	In the Drill Hall,	at 11 a.m.
February 12th . .	do.	do.
March 12th . . .	do.	do.
March 26th . . .	do.	do.
April 9th	do.	do.
April 23rd	do.	do.
May 14th	do.	do.
May 30th	In the Temple Gardens,	at 11 a.m.
June 11th	In the Drill Hall	do.
June 25th	do.	do.
July 9th	At Chiswick	do.
July 23rd	In the Drill Hall	do.
August 13th . . .	do.	do.
August 27th . . .	do.	do.
September 17th . .	do.	do.
September 24th . .	At Chiswick	do.
October 8th . . .	In the Drill Hall	do.
October 22nd . . .	do.	do.
November 12th . .	At Chiswick	do.
December 10th . .	In the Drill Hall	do.

The Committee will be also *specially summoned* from time to time for meetings at Chiswick whenever the subjects under trial in the Society's Gardens may require adjudication. Notice of such *special* meetings *will be sent* to each member of the Committee.

FRUIT & VEGETABLE COMMITTEE, 1889.

Chairman.

(Will be appointed after the Election of the Council, Feb. 12, 1889.)

Vice-Chairmen.

Sir CHARLES STRICKLAND, Bart.
JOHN LEE, 78, Warwick Gardens, Kensington.
R. D. BLACKMORE, Teddington.

Secretary.

ARCHIBALD F. BARRON, Royal Horticultural Society, Chiswick, W.

BALDERSON, H., Corner Hall, Hemel Hempstead.
BARR, PETER, 12, King Street, Covent Garden, W.C.
BATES, W., Poulett Lodge Gardens, Twickenham.
BUNYARD, GEORGE, The Nurseries, Maidstone.
BURNETT, J., The Gardens, Deepdene, Dorking.
CHEAL, J., Crawley, Sussex.
CLIFFE, G., Shoreham Place Gardens, Sevenoaks.
CROWLEY, PHILLIP ,Waddon House, by Croydon.
CUMMINS, G. W., The Grange Gardens, Wallington.
DENNING, W., Heathfield Nursery, Hampstead.
DUNN, MALCOLM, The Palace Gardens, Dalkeith, N.B.
FAIRGRIEVE, P. W., The Palace Gardens, Dunkeld, N.B.
FORD, SIDNEY, The Gardens, Leonardslee, Horsham.
GOODACRE, J. H., Elvaston Gardens, Derby.
HOGG, Dr., LL.D., F.L.S., 99, St. George's Road, Pimlico.
HAYCOCK, C., Goldings, Hertford.
HUDSON, J., Gunnersbury House, Acton.
LANE, FRED, Berkhampstead.
McINDOE, JAMES, Hutton Hall Gardens.
MOORE, F., Blendon Hall Gardens, Bexley.
MILES, GEORGE T., Wycombe Abbey, High Wycombe.
NORMAN. G., Hatfield House Gardens, Hatfield.
PEARSON, A. H., The Nurseries, Chilwell, Notts.
ROBERTS, J., The Gardens, Gunnersbury Park, Acton.
ROSS, CHARLES, The Gardens, Welford Park, Newbury.
SALTMARSH, T. J., The Nurseries, Chelmsford.
SHERWOOD, N., Dunedin, Streatham Hill, S.W.
SMITH, JAMES, The Gardens, Mentmore, Leighton Buzzard.
SUTTON, A. W., Reading.
VEITCH, H. J., Royal Exotic Nurseries, Chelsea.
WARREN, W., Worton Gardens, Isleworth.
WEIR, HARRISON, Sevenoaks.
WILDSMITH, W., Heckfield Place, Winchfield.
WILLARD, JESSE, Holly Lodge Gardens, Highgate, N.
WRIGHT, JOHN, 171, Fleet Street.
WYTHES, G., Syon House Gardens, Brentford.

NOTE: Members of the Council are Members of all the Committees.

DATES, PLACES, AND HOURS OF MEETING

OF THE

FLORAL COMMITTEE, 1889.

MEMBERS of the Committee are requested to take note of the dates and places of meeting, as no further notice will be sent out.

January 15th	In the Drill Hall,	at 11 a.m.
February 12th	do.	do.
March 12th	do.	do.
March 26th	do.	do.
April 9th	do.	do.
April 23rd	do.	do.
May 14th	do.	do.
May 30th	In the Temple Gardens,	at 11 a.m.
June 11th	In the Drill Hall,	do.
June 25th	do.	do.
July 2nd	At Chiswick	do.
July 9th	do.	do.
July 23rd	In the Drill Hall	do.
August 13th	do.	do.
August 27th	do.	do.
September 17th	do.	do.
September 24th	At Chiswick	do.
October 8th,	In the Drill Hall	do.
October 22nd	do.	do.
November 12th	At Chiswick	do.
December 10th	In the Drill Hall	do.

The Committee will be also *specially summoned* from time to time for meetings at Chiswick, whenever the subjects under trial in the Society's Gardens may require adjudication. Notice of such *special* meetings *will be sent* to each member of the Committee.

FLORAL COMMITTEE, 1889.

Chairman.

HAYWOOD, T. B., Woodhatch, Reigate.

Vice-Chairmen.

MARSHALL, WILLIAM, Auchinraith, Bexley.
MASTERS, MAXWELL T., M.D., F.R.S., V.P.L.S., Mount Avenue, Ealing, W.
SHIRLEY HIBBERD, J., 1, Priory Road, The Green, Kew.

Secretary.

ARCHIBALD F. BARRON, Royal Horticultural Society, Chiswick, W.

BAINES, THOMAS, Fern Cottage, Palmer's Green, N.
BALLANTINE, H., The Dell Gardens, Egham.
BARLOW, S., Manchester.
BURBIDGE, F. W., Trinity College Botanic Garden, Dublin.
BLAIR, P. C , Trentham Gardens, Stoke-on-Trent.
CANNELL, H., Swanley, Kent.
CASTLE, L., Hotham House, Merton.
DEAN, R., Ranelagh Road, Ealing, W.
DOMINY, JOHN, 11, Tadema Road, Chelsea, S.W.
DOUGLAS, J., Great Gearies, Ilford.
DRUERY, C. T., 16, Philpot Lane, E.C.
FRASER, JOHN, Lea Bridge Road, Leytonstone, E.
GIRDLESTONE, T. W., Sunningdale, Ascot.
GOLDRING, W., 52, Gloucester Road, Kew.
HERBST, H., Kew Road, Richmond, Surrey.
HILL, E., Tring Park Gardens, Tring.
HOLMES, W., Frampton Park Nurseries, Hackney, E.
INGRAM, W., Belvoir Castle Gardens, Grantham.
KELWAY, W. Langport, Somerset.
LAING, JOHN, The Nurseries, Forest Hill.
LEACH, W. C., Aldbury Park Gardens, Guildford.
LINDSAY, R., Botanic Gardens, Edinburgh.
LOWE, R. B., Ashbridge Gardens, Berkhampstead.
MAWLEY, E., Rosebank, Berkhampstead.
NICHOLSON, G., Royal Gardens, Kew.
NOBLE, C., Sunningdale Nursery, Bagshot.
O'BRIEN, JAMES, West Street, Harrow-on-the-Hill.
PAUL, GEORGE, The Old Nurseries, Cheshunt.
PILCHER, CHARLES, 84, Ringford Road, Wandsworth, S.W.
POLLETT, H. M., Fernside, Bickley, Kent.
ROSS, F., Pendell Court Gardens, Bletchingley.
TURNER, H., Royal Nurseries, Slough.
WALKER, J., Whitton, Middlesex.
WILLIAMS, H., Victoria Nurseries, Holloway.
WILLIAMS, W. H. (Keynes & Co.), Salisbury.
WYNNE, B., 17, Catherine Street, Strand, W.C.

NOTE: Members of the Council are Members of all the Committees.

DATES, PLACES, AND HOURS OF MEETING

OF THE

NARCISSUS COMMITTEE, 1889.

NOTICE of the First Meeting only will be sent to each Member of the Committee, members are therefore requested to make note of subsequent meetings.

March 26th. . . .	In the Drill Hall,	at 12 o'clock.
April 9th	do.	do.
April 23rd	do.	do.
May 14th	do.	do.

On Tuesday, April 9th, at 3 p.m., a short Popular Lecture will be given in the Drill Hall upon Narcissus, by Mr. Burbidge, of Trinity College, Dublin, and discussion will be invited.

NARCISSUS COMMITTEE, 1889.

Chairman.

Professor M. FOSTER, Sec., R.S., Shelford, Cambridge.

Vice-Chairmen.

Hon. and Rev. J. T. BOSCAWEN, F.L.S., Lamorran, Probus, Cornwall.
J. G. BAKER, F.R.S., Royal Herbarium, Kew.
Rev. C. WOLLEY DOD, Edge Hall, Malpas, Cheshire.

Honorary Secretaries.

Rev. GEORGE H. ENGLEHEART, Appleshaw, Andover.
Rev. W. WILKS, M.A., Shirley Vicarage, Croydon.

BARR, P., 12, King Street, Covent Garden, W.C.
BARR, W., 12, King Street, Covent Garden, W.C.
BURBIDGE, F. W., Trinity College Gardens, Dublin.
CLARKE, Col. R. TREVOR, Welton Place, Daventry.
COLLINS, A., 39, Waterloo Road, S.E.
COWAN, C. W., Valleyfield, Penicuick, Midlothian.
DARLINGTON, H. R., 207, Piccadilly, W.
DE GRAAFF, S. A., Leyden, Holland.
ELWES, H. J., F.L.S., Preston Hall, Cirencester
GOLDRING, W., 52, Gloucester Road, Kew.
GROSVENOR, Lady HY., Cliveden, Maidenhead.
HARTLAND, W. B., Patrick Street, Cork.
HAYDON, Rev. G. P., Hatfield Vicarage, Doncaster.
JEKYLL, Miss G., Munstead, Godalming.
KRELAGE, J. H., Haarlem, Holland.
LEICHTLIN, MAX, Baden Baden.
LLEWELYN, J. T. D., F.L.S., Penllergare, Swansea.
MASTERS, MAXWELL T., M.D., F.R.S., V.P.L.S., Mount Avenue, Ealing, W.
MILNE-READHEAD, R., Holden Clough, Bolton-by-Bowland, Clitheroe.
MOORE, F. W., Royal Botanic Gardens, Glasnevin, Dublin.
NELSON, Capt. CHARLES G., R.N., Holme Lodge, Godalming.
OWEN, Miss C. M., Knockmullen, Gorey, Ireland.
PERRY AMOS, J., Hale Farm, Tottenham.
POË, JOHN T., Riverston, Nenagh, Ireland.
VILMORIN, HENRY L. DE, Quai de la Megisserie, Paris.
WALKER, JAMES, Whitton, Middlesex.
WARE, WALTER T., Inglescombe Nurseries, near Bath.
WEBSTER, A. D., F.B.S.E., Llandegar, Bangor, North Wales.
WEIR, HARRISON, Sevenoaks.
WHITE, Miss, Charleville, Roscrea, Ireland.
WOODALL, E. H., St. Nicholas House, Scarboro'.

NOTE: Members of the Council are Members of all the Committees.

REGULATIONS

FOR THE

FRUIT AND FLORAL COMMITTEES.

THE objects of the Committees are:—(1) To encourage the production of new and improved varieties of Fruits, Flowers, Decorative Plants and Vegetables, by examining and reporting upon the merits of such as may be submitted to them for the purpose. (2) To collect and disseminate trustworthy information respecting the adaptability of particular kinds of Fruits, Flowers and Plants to the varied conditions of soil, locality, &c., throughout the United Kingdom. (3) To report, for publication in the Journal of the Society, on all Fruits, Flowers, Plants and Vegetables grown in the Society's Gardens at Chiswick, for the purposes of comparison or experiment, and on objects exhibited at the Meetings.

Plants, &c., that were formerly in cultivation, but have since been neglected or lost, or from their extreme rarity are little known, may be regarded as novelties.

The Committees will meet at the places and hours, and on the days already specified on pages 20 and 22; there will also be special Meetings at Chiswick as often as may be necessary.

REGULATIONS.

1. ALL PERSONS, WHETHER FELLOWS OF THE SOCIETY **OR NOT**, are invited to exhibit noteworthy objects at the Committee Meetings, AND TO CONTRIBUTE TOWARDS COMPLETING THE COLLECTIONS AT CHISWICK.

2. Exhibitors are requested to give notice, whenever practicable, to Mr. Barron, of their intention to exhibit; in the case of collections or groups of Plants, &c., stating the amount of space required. All

objects to be submitted to the opinion of either Committee must be delivered at the place of Meeting (see pages 20 and 22) not later than 10 A.M. Small packages may be addressed to the Secretary, *carriage paid*, and at the risk of the sender.

3. Each object must be separately entered with the Secretary on the morning of the Meeting, and if submitted for Certificate, the following particulars should be communicated *in writing* :—(1) The name and postal address of the exhibitor. (2) The name of the Fruit, Flower, Plant, or Vegetable, if a seedling; (3) the name and native country, if an importation. Seedlings sent without name will be passed over.

4. Exhibitors are invited to communicate, *in writing*, such further details of the origin, history, introduction or peculiarities of their exhibits as they may think interesting for publication. If these are legibly written on cards sent with the exhibits, it will greatly add to the interest which will be felt by the Fellows who attend to inspect them.

5. When the merits of any thing exhibited by a Member of the Committee are under discussion, such Member shall leave the table until the Committee has arrived at its decision.

6. All Fruits sent must be ripe, or in such a condition that their qualities may be fairly reported on. A sufficient sample must be sent for tasting, and to admit of a correct description being drawn up ; and in the case of Apples, Pears, and Stone Fruits, not less than six must be shown.

In the case of Florists' Flowers, three blooms at the least must be sent ; and in all practicable cases, the growing Plant will be required ; but cut specimens, if sufficient, will be admissible when the habit of the Plant is well known ; but every object exhibited must be sufficient in quantity or number to enable the Committee to form a fair opinion of its merits.

7. Exhibitors will greatly facilitate the work of the Committees by sending specimens or collections of known varieties to serve as references, and for comparison with the novelties.

8. Where necessary, newly imported plants will be referred to the Scientific Committee, that they may be correctly named. All such specimens should be accompanied with as accurate information as possible as to the countries from which they have been derived.

9. Two general forms of award will be made by the Council, viz.:—"THE FIRST CLASS CERTIFICATE" and "THE AWARD OF MERIT," and in *quite exceptional* cases, Gold, Silver, or Bronze Medals may be awarded for objects of *extraordinary* merit.

The Committees will recommend awards to be made to very superior seedlings or novelties, or to recently introduced, re-introduced, or very rare objects, or to highly decorative plants, according to their merits. In the case of plants commonly grown from seed every year, the award will be made to the "strain" and not to individual plants. "*Cultural Commendation*" will be given for objects evincing highly meritorious cultivation.

10. "*Botanical Certificates*" will be awarded on the recommendation of the Scientific Committee.

11. A record will be kept and published in the Society's Journal of the number of Members present at each Meeting of the Committees, and also of the number voting for or against the recommendation of any award.

12. No Award will be made to Potatoes, Peas, and similar vegetables unless previously tested in the Society's Gardens at Chiswick, as to their cropping qualities and distinctive merits. All subjects must be named, as a means of future identification. Seedling or New varieties of Fruits and Vegetables sent to Chiswick for trial shall be limited to six sorts of any one kind from any one raiser in each year. This rule does not apply to established varieties sent to the Gardens for comparison.

13. All Fruits, Flowers, Vegetables and Plants sent to the Society's Gardens for trial will be submitted for the opinion of the Committees and the result published in the Society's Journal.

* * *

NOTE:—With a view to enhance the value of the Society's Awards, and in the interest of the most really meritorious objects, the Council advise the Committees to consider whether it would not be possible and wise to reduce the number of their recommendations for the Society's First Class Certificate and the Award of Merit.

REGULATIONS FOR EXHIBITIONS.

(These are not intended to apply to the ORDINARY *Meetings.)*

I. Any prizes offered by the Royal Horticultural Society are, unless otherwise specified, open to all competitors residing in the United Kingdom, complying with the following regulations.

II. Exhibitors must give due notice, in writing, with their full addresses, of the Class or Classes in which they intend to exhibit, and the amount of space required. This should be done by filling up and forwarding to Mr. Barron, R.H.S. Gardens, Chiswick, the printed forms provided for that purpose.

III. Cards corresponding with the entries will be furnished on the morning of the Exhibition by the Superintendent.

IV. Exhibitors will be responsible for the proper placing of these cards, and they are requested to satisfy themselves that the cards correctly describe the objects exhibited.

V. Objects for competition will be received the day before and on the morning of the Exhibition up to 10 a.m., at which hour the gates will be closed.

VI. Officers of the Society will direct the placing of all exhibits.

VII. Only *bonâ fide* exhibitors, and such assistance as may be absolutely required for the arrangement of their exhibits, will be admitted previous to the Exhibition being opened to the Public. After 10 o'clock, no person will be allowed to enter, *and all persons* (except such as may be officially retained by the Society) *must retire by* 11 a.m., at which hour the Judges will proceed to make the awards.

VIII. No Exhibitor will be awarded more than one prize in any class.

IX. In order to prevent inferior exhibits obtaining too high awards, the Judges will withhold the prizes when the exhibits are not, in their opinion, of sufficient merit.

X. All specimens must be the *bonâ fide* property of the exhibitor or of his employer, or they will not be eligible to compete; any prize obtained contrary to this regulation will be forfeited, and will be awarded to the competitor or competitors next in merit in the same class.

XI. The decision of the Judges shall be final.

XII. *The Superintendent has instructions to refuse all exhibits which he considers unworthy of being shown.*

XIII. The Council will not be responsible for damage done to Plants, Fruits, or other objects, during or after the Exhibitions, but all ordinary care will be taken of them.

XIV. Exhibitors' Pass Tickets for necessary attendants only, will be supplied by the Superintendent.

NATIONAL AURICULA SOCIETY'S SHOW,

APRIL 23rd, 1889.

SCHEDULE OF PRIZES.

AURICULAS.

CLASS.		
A.	Twelve *dissimilar*	70/- 50/- 40/- 30/- 20/- 10/-
B.	Six do.	35/- 30/- 20/- 15/- 10/- 5/-
C.	Four do.	25/- 20/- 15/- 10/- 7/6 5/-
D.	Two do.	15/- 12/6 10/- 7/6 5/- 2/6
E.	Single Specimen, green edged	8/- 7/- 6/- 5/- 4/- 3/- 2/- 1/-
F.	Ditto grey do.	8/ 7/- 6/- 5/- 4/- 3/- 2/- 1/-
G.	Ditto white do.	8/- 7/- 6/- 5/- 4/- 3/- 2/- 1/-
H.	Ditto selfs	8/- 7/- 6/- 5/- 4/- 3/- 2/- 1/-
I.	Fifty Plants, *not less than* 20 *varieties (may include Alpines)*	80/- 60/- 40/-

Note.—*One truss only may be shown in Auriculas; one or more in Alpines.*

ALPINE AURICULAS.

K.	Twelve *dissimilar*	30/- 20/- 10/- 7/6 5/-
L.	Six do.	20/- 15/- 10/- 5/- 3/-
M.	Four do.	15/- 10/- 7/6 5/- 3/-
N.	Single Specimen, gold centre	5/- 4/- 3/- 2/- 1/-
O	Ditto white or cream centre	5/- 4/- 3/ 2/- 1/-

Note.—*One or more trusses may be shown in the Classes K, L, M, N, and O. Shaded or unshaded flowers may be shown at the option of the Exhibitor.*

POLYANTHUS.

P.	Six *dissimilar*, gold laced	20/- 15/- 10/- 5/-
Q.	Three do. do.	10/- 7/6 5/- 3/-
R.	Single Specimen do.	5/- 4/- 3/- 2/- 1/-

EXTRA.

S.	Twelve *dissimilar*, fancy Auriculas*	15/- 10/- 5/-
T.	Ditto do. Polyanthuses	15/- 10/- 5/-
U.	Ditto single Primroses	15/- 10/- 5/-
V.	Six *dissimilar*, double Primroses, in pots or pans, not necessarily one plant	10/- 7/6 5/-
W.	Twelve Primulas, distinct species	25/- 20/- 15/- 10/-
X.	Six do. do.	15/- 10/- 7/6 5/-
Y.	Premier Auricula, selected from the whole Exhibition	10/-
Z.	A Basket of Primrose plants arranged for effect	20/- 15/- 10/-

Prizes of 10/- and 7/6 will be awarded (if worthy) to Seedlings in *Auriculas*—green edged, grey edged, white edged, and selfs.

And to *Alpines*, gold centres	6/- 4/-
Ditto white or creamy centres	6/- 4/-
And to *Polyanthus*, gold laced, black ground	6/- 4/-
Ditto do. red ground	6/- 4/-

* Note.—*May include laced and double varieties.*

CONDITIONS FOR EXHIBITORS

AT THE

AURICULA AND PRIMULA SHOW.

1. The Prizes are open to all Exhibitors, whether Subscribers to the Society or not.

2. An Exhibitor can win one Prize only in each Class, except in the Classes for Seedlings, in which there is no limit, and in Single Specimens he may not exhibit more than two in each Class, but may win with both exhibits.

3. Notice of entry must be given to Mr. A. F. Barron, Royal Horticultural Society, Chiswick, and of the Classes proposed to be shown in, at least *four clear days* before the day of show.

4. The Plants must be in the Drill Hall, James' Street, Westminster, and ready for the Judges at 11 a.m., and may be removed after 6 p.m. Exhibitors are requested to apply for their cards immediately upon their arrival at the place of Exhibition.

5. All exhibits must be legibly named. It is recommended that the trusses be supported with neat sticks. Green moss will be provided to cover the soil, and pots for those who may bring their plants without pots.

6. Exhibitors in Classes A and B may not compete in Classes C and D, and in two only of Classes K, L, and M. Those who compete in W cannot do so in X.

7. In Class U Exhibitors may show more than one collection, provided that in each, six at least of the subjects be distinct. In addition to the legible naming required by the 5th Condition, Exhibitors in this Class are invited to give the native country of the species.

8. At the time when the Judges commence their work, all persons present, save the officers and their assistants, must retire from the exhibition. The decision of the Judges shall be final.

9. All Plants and Flowers shown in the Schedule Classes must have been the *bonâ fide* property of the exhibitor or his employer at least two months previous to the date of the exhibition.

10. Seedlings, whether exhibited in Collections or not, are eligible for Certificates, due notice having been previously given in writing to the Secretary. Each plant must have the entry card correctly placed with it.

11. No person shall be allowed to compete as an amateur who publishes a list of plants for sale, with the exception of Seedlings of his own raising.

GREAT SHOW
IN THE
GROUNDS OF THE INNER TEMPLE.

MAY 30th and 31st, 1889.

CLASS.

PLANTS.

1. Group of Plants arranged for effect in a space not exceeding 150 square feet. Nurserymen.
2. Ditto ditto ditto Amateurs.
3. Group of Orchids arranged with foliage plants. Open.
4. Group of 9 Orchids. Nurserymen.
5. Ditto ditto. Amateurs.
6. Group of Odontoglossums and Masdevallias. Not more than 25 plants. Open.
7. Group of Cattleyas and Lælias, combined or separate. 15 distinct. Open.
8. Group of 12 Roses in pots. Open.
9. Ditto ditto not to exceed 10 inches.
10. Group of 9 greenhouse Azaleas, in pots. Open.
11. ,, 12 Azaleas, pontica or mollis. Open.
12. ,, 9 Pelargoniums—show, decorative and fancy. Open.
13. ,, 50 ditto ditto ditto.
14. ,, 12 Clematis. Open.
15. ,, 9 Palms, distinct. Open.
16. ,, 9 Foliage Plants. Open.
17. ,, 9 Exotic Ferns, distinct. Open.
18. ,, 9 Hardy Ferns, distinct. Open.
19. ,, Hardy Herbaceous Plants, in pots. Open.
20. ,, Alpine Plants. Open.
21. ,, 25 Calceolarias. Open.
22. ,, 25 Cinerarias. Open.
23. Miscellaneous exhibits, not specially mentioned or provided for in the foregoing classes.

CUT FLOWERS.

24. Orchids, 12 varieties; cut spikes or bunches, to be shown in glasses. Open.

25. Hardy Plants (cut blooms), in variety. Open.

25A. Violas—12 Sprays or Bunches, 9 blooms in each; distinct varieties; Viola foliage only. *For special Prizes, see p.* 34.

26. Lilies. Open.

27. Tulips. ,,

Special Prizes are offered for Show Tulips. *See* **page 34.**

CLASS. CUT FLOWERS—CONTINUED.

28. Irises. Open.
29. Narcissus ,,
30. Ixias and Sparaxis.

FRUIT.

31. Apples, collection of.

MARKET GROWERS.

PLANTS.

32. Group of Plants arranged for effect in a space not exceeding 150 square feet.
33. Group of Ferns.
34. ,, Palms, in pots not exceeding 10 inches.
35. Six Specimen Palms.
36. Group of 50 Pelargoniums, in flower.
37. ,, 25 Calceolarias ,,
38. ,, 25 Cinerarias ,,
39. ,, 12 Lilies ,,
40. ,, 25 Lily of the Valley ,,
41. ,, 25 Mignonette ,,
42. ,, 25 Heaths ,,
43. ,, 12 Violets ,,
44. ,, 25 Marguerites ,,

CUT FLOWERS.

45. Roses, in bunches.
46. Tulips, in variety (Special Prizes, *see* next page).
47. Narcissi.
48. Bouquets, Wreaths, &c.

VEGETABLES.

49. Potatoes.
50. Salads.
51. Tomatoes.
52. Asparagus.
53. Sea Kale.

FRUIT.

54. Pine Apples.
55. Apples.
56. Grapes, Old, Basket of.
57. ,, New ,,

TEMPLE SHOW—CONTINUED.

SHOW TULIPS.—The Trustees of the "Turner Memorial" fund, anxious to extend the culture of the old-fashioned Show Tulips, offer the following prizes for a collection of cut blooms. Named varieties of feathered and flamed bizarres; feathered and flamed byblœmens; feathered and flamed roses, are the type of flower invited. "Breeders" would be admissible. Any type of Show Tulip may be exhibited, but the flowers will be judged strictly according to the florist's recognised standard purity of the cup and stamens. Five prizes of £3, £2 10*s.*, £2, £1 10*s.*, £1.

VIOLAS.—Special Prizes are offered by Messrs. Dobbie & Co., Florists, Rothesay, N.B. Twelve sprays or bunches, distinct varieties, nine blooms in each spray. Viola foliage only to be used in making up. Three Prizes, £1 1*s.*, 10*s.* 6*d.*, and 5*s.*

SPECIAL PRIZES.—The "Veitch Memorial" Trustees have kindly placed the following Prizes at the disposal of the Council at this Show:—One Prize to be awarded at the discretion of the Council "to some person who has specially distinguished himself in Horticulture"; Two Prizes of a Medal and £5 each to be awarded "to the most meritorious exhibits sent by amateurs to the Temple Show."

It is hoped that the Council may be able to vote a sum of money for the purchase of Cups to be allotted by the Judges to the various classes, according to merit on the day of the show.

The Council will be pleased to receive the promise of Special Prizes or Donations towards Special Prizes, in any of the Classes in which the Donor may happen to be most interested.

Exhibitors must give notice of their intention to exhibit to Mr. A. F. Barron, R.H.S. Gardens, Chiswick, *not later than Saturday, May 25th.*

Objects for exhibition will be received on the evening of the 29th or the morning of the Show up to 9 o'clock, at which hour the gates will be closed, and all staging must be completed by 10.30, when the Judges will proceed to make their awards.

The Exhibition will close at 7 o'clock p.m. on the 31st, after which hour exhibits may be removed.

N.B.—The above Schedule is subject to the Society's usual regulations and conditions for Exhibitors, where not otherwise stated, copies of which may be obtained from the Society's Office, 117, Victoria Street, Westminster, S.W.

NATIONAL ROSE CONFERENCE AT CHISWICK.

JULY 2nd and 3rd, 1889.

SCHEDULE OF EXHIBITS INVITED.

N.B.—*Staging must be* COMPLETED *by* 11 *a.m. Packages may be directed to Mr. Barron, R. H. S. Gardens, Chiswick.*

CLASS.

I. Great Collection of all kinds of Roses, number not limited; one truss of each variety; to be grouped in their several families or classes.

SUMMER-FLOWERING ROSES.

II. Collection of Moss and Provence Roses, number not limited; not more than six trusses of each variety.

III. Collection of Hybrid Chinas, H. Bourbons, H. Noisettes, Gallicas, and Albas, unlimited; not more than six trusses of each variety.

IV. Collection of Single Roses of decorative value, not more than six trusses of each variety.

V. Collection of Climbing Roses, not more than six trusses of each.

VI. Collection of Polyanthas, not more than six trusses of each.

VII. Any other Summer-flowering Rose or Roses, not more than six trusses of each.

AUTUMN-FLOWERING ROSES.

VIII. Collection of Hybrid Perpetuals, not exceeding 48 varieties, one truss of each.

IX. Ditto, ditto, ditto, ditto, 24 varieties, one truss of each.

X. Ditto, ditto, ditto, ditto, 12 varieties, one truss of each.

XI. Ditto Teas and Noisettes, not exceeding 24 varieties one truss of each.

XII. Ditto, ditto, 12 ditto.

XIII. Ditto, ditto, ditto, in Bunches, not more than six trusses in each.

XIV. Ditto Polyanthas and Hybrid Polyanthas, not more than six trusses of each variety.

XV. Ditto Chinas, not more than six trusses of each.

XVI. Any other Autumnal-flowering Rose or Roses, not more than six trusses of each.

XVII. SPECIES:—Any exhibits will be welcome. Persons possessing Species of Roses, if only single specimens, are requested to exhibit in this class.

N.B.—Papers of interest to Rosarians will be read in the afternoon of each day, and discussion invited. The programme will be published as soon as completed.

ROSE CONFERENCE, 1889.

President of the Conference.

* The Very Rev. the DEAN OF ROCHESTER.

Chairman of the Committee.

* T. B. HAYWOOD, Esq., Woodhatch Lodge, Reigate.

Secretary to the Committee.

* E. MAWLEY, Esq , Rosebank, Berkhampstead, Herts.

Corresponding Foreign Secretary.

* Dr. MASTERS, F.R.S., Mount Avenue, Ealing, W.

President of the Botanical Section.

* J. G. BAKER, Esq., F.R S., Royal Herbarium, Kew.

General Committee.

APPLEBY, H., Box Hill Nurseries, Dorking.
ARKWRIGHT, J. H., Hampton Court, Leominster.
BACKHOUSE & SON, Nurseries, York.
BAKER, R. N. G., Heavitree, Exeter.
BARLOW, S., Stakehill House, Castleton, Manchester.
BATEMAN, J., 72, Twisden Road, Highgate Road, N.W.
BENSTED, H., Rockstow, Maidstone.
*BERNERS, Rev. H. A , Harkstead Rectory, Ipswich.
BIRON, Rev. H. B., Lympne Vicarage, Hythe, Kent.
BLOXAM, R , Eltham Court, Eltham.
BOSCAWEN, Hon. and Rev. J. T., Lamorran, Probus, Cornwall.
BROWN, J., The Gardens, Great Doods, Reigate.
BUDD, S. P., 8, Gay Street, Bath.
BUNYARD, G., Old Nurseries, Maidstone.
BURBIDGE, F. W., Trinity College Gardens, Dublin.

Burnside, Rev. F. R., Ivy House, Chipping Campden, Gloucestershire.
*Burrell, J., Howe House Nursery, Cambridge.
*Cant, B. R., Rose Nurseries, Colchester
Cant, F., Mile End Nurseries, Colchester.
Cheales, Rev. A., Brockham Vicarage, Reigate.
Christy, Capt., Hill Green House, Stockbury, Sittingbourne.
Clarke, Col. R. Trevor, Welton Place, Daventry.
Cocker, J., & Sons, Sunny Park Nursery, Aberdeen.
Cooling, G., & Son, Batheaston Nurseries, Bath.
Cranston, J., King's Acre Nurseries, Hereford.
Curtis, Sandford & Co., Devon Roseries, Torquay.
Dean, R., Ranelagh Road, Ealing, W.
Dickson, Alex., & Co., Belfast.
Dickson, F. A., & Sons, 106, Eastgate Street, Chester.
*D'Ombrain, Rev. H. H., Westwell Vicarage. Ashford, Kent.
Douglas, J., Great Gearies, Ilford.
Dunn, Malcolm, Dalkeith Park, Dalkeith, N.B.
Ellacombe, Rev. Canon, Bitton Vicarage, Bristol.
Ewbank, Rev. H., St. John's Vicarage, Ryde, Isle of Wight.
Ewing & Co., Sea View Nurseries, Havant, Hants.
Fish, D. T , Rose Cottage, Hardwicke, Bury St. Edmunds.
Fowler, J. G., Glebe Lands, Woodford, Essex.
Fraser, J., Lea Bridge Road, Leyton.
*Fuller, Rev. J. M., The Vicarage, Bexley, Kent.
Gall, Rev. F. H., Hope Cottage, Radcliffe Road, Hitchin, Herts.
Garnett, Rev. L., The Rectory, Christleton, Cheshire.
Girdlestone, T. W., Sunningdale, near Ascot.
Grant, W. J., Hope End, Ledbury.
Gray, A. H., Beaulieu, Newbridge, Bath.
Hall, T. B., Larch Wood, Rock Ferry, Birkenhead.
Harkness, R., Bellerby Grange, Bedale, Yorks.
Head, W. G., Crystal Palace Gardens, S.E.
*Hibberd, J. Shirley, 1, Priory Road, The Green, Kew.
Hogg, Robert, LL.D., F.L.S., 99, St. George's Road, S.W.
Hore, C. F., Hilden, Beckenham, Kent.
Jackson, Rev. W. H., Stagsden Vicarage, Bedford.
Jefferies, J., The Nurseries, Cirencester.
Jekyll, Miss, Munstead, Godalming.
Kent, A., c/o Messrs. J. Veitch & Sons, Chelsea, S.W.
King, Rev. E. G., DD., Madingley Vicarage, Cambridge.
Laing, Jno., The Nurseries, Forest Hill, S.E.
Lane, H., & Son, Berkhampstead, Herts.
Laxton, T., Bedford.
Lindsay, R., Botanic Garden, Edinburgh.
*Lindsell, E. B., Bearton, Hitchin, Herts.
Llewelyn, J. T. D , Penllergare, Swansea.

Loder, Sir E., Bart., Floore Weedon, Northamptonshire.
Lynch, R. Irwin, Botanic Gardens, Cambridge.
Mack, R., Rose Nurseries, Catterick Bridge, Yorks.
Melles, W., Sewardstone Lodge, Chingford.
Melliar, Rev. A. Foster, Sproughton Rectory, Ipswich.
Merryweather, H., Rose Nurseries, Southwell.
Moore, F. W., Royal Botanic Gardens, Glasnevin, Dublin.
Nicholson, G., Royal Gardens, Kew.
Owen, Miss, Knockmullen, Gorey, Ireland.
Palmer, G., The Gardens, Drinkstone Park, Bury St. Edmunds.
*Paul, Geo., Cheshunt, Herts
*Paul, Wm., Waltham Cross.
Pawle, J. D., 27, Canfield Gardens, South Hampstead, N.W.
Pearson, A. H., The Nurseries, Chilwell, Notts.
*Pemberton, Rev. J. H., Havering-atte-Bower, Romford.
Penrice, Miss, Witton House, Norwich.
Penzance, Lord, Eashing Park, Godalming.
Pochin, Rev. E. N., Barkby Vicarage, Leicester.
Poë, J. T., Riverston, Nenagh, Ireland.
Prince, A., 14, Market Street, Oxford.
Ridout, W., Woodhatch, Reigate.
Rivers, T. F., Sawbridgeworth, Herts.
Roberts, Rev. Page, The Rectory, Scole, Norfolk.
Rumsey, W , Joyning's Nurseries, Waltham Cross.
Sladden, J., Badsey, Evesham.
Slaughter, A., Jarvis Villa, Steyning, Sussex.
Strange, J. T., Aldermaston, Reading.
Strickland, Sir C. W., Bart., Hildenley, Malton.
Swailes, G., Beverley, Yorks.
*Turner, A., Royal Nurseries, Slough.
Veitch, H. J., Royal Exotic Nursery, Chelsea, S.W.
Veitch, Robert, Exotic Nurseries, New North Road, Exeter.
Wakeley, W. H., Macklands, Rainham, Kent.
Walker, John, The Nurseries, Thame, Oxon.
Wallis, Harry, Priory Lodge, Cornsland, Brentwood
West, R. E., Firth Dene, Wray Park, Reigate.
Whitwell, E. R., Barton Hall, Darlington.
Wildsmith, W., Heckfield Place, Winchfield.
*Wilks, Rev. W., Shirley Vicarage, Croydon.
*Williams, W. H., c/o Keynes & Co., Salisbury.
Wilson, G. F., F.R S., Heatherbank, Weybridge Heath.
Wollaston, F. T., Dovers, Reigate.
Wood, W., & Son, Woodlands Nurseries, Maresfield, Uckfield.

* These form the Executive Committee.

The following Gentlemen have been asked to join the English Committee:

BRUANT, Boulevard St. Cyprien à Poitiers, France.
MUSKAVER, Baumschule, Muscau O. L., Germany.
L. PAILLET, Vallée de Chatenay, Chatenay (Seine), près Paris.
SIMON-LOUIS FRÈRES, Plantières bei Metz (Lothringen), Germany.
Dr. DIECK, Rittergut Zöschen bei Merseburg, Germany.
Dr. H. CHRIST, Bale.
GEBRÜDER SCHULTHEIS, Steinfurth bei Bad Nauheim (Hesse), Germany.
SOUPERT & NOTTING, Nurserymen, Luxemburg.
LAMBERT & REITER, Rose Nurseries, Trier, Germany.
J. CAUCHOIX, Horticulteur-Rosieriste, Orleans (Loviet), France.
BARON-VEILLARD, Route d'Olivet, 40, à Orleans.
ANDRÉ LEROY, 13, Rue de Brissac, Angers.
MARGOTTIN PÈRE, Bourg-la-Reine, près Paris.
MARGOTTIN, JULES, FILS, à Pierrefitte, près Paris.
EMILE BURNAT, Nant-sur-Vevey, Vevey (Vaud), Switzerland.
GREMLI, Conservateur de l'herbier Burnat, Vevey (Vaud), Switzerland.
E. VERDIER, Rue Clisson, Paris.
C. VERDIER, Route de Choisy, à Ivry, près Paris.
DUCHER, Chemin des Quartre Maisons, Lyon (Rhone).
GUILLOT FILS, Chemin des Cins, à la Guillotière, Lyon.
LEVET, Route d'Heyrien, Montplaisir, 73, Lyon.
JEAN BERNET, Route de Vaux, à Montplaisir, Lyon.
J. SCHWARTZ, Rue du Repos, à la Guillotière, 43, Lyon.
LEVEQUE ET FILS, Ivry-sur-Seine, près Paris.
HIPPOLYTE JAMAIN, Rue de Glacière, Paris.
H. VILMORIN, Quai de la Megisserie 4, Paris.
D. E. VON REGEL, Director Imp. Bot. Garden, St. Petersburg.
GRENEWEEGEN, Amsterdam.
F. HARMS, Eimsbuttle, Hamburg.
MAX LEICHTLIN, Botanic Garden, Baden Baden.
MAX KOLB, Botanic Garden, Munich.
Prof. SAARGENT, Arnold Arboretum, Brooklyn, Mass.
JEAN VAN VOLXEM, 1, Rue Zinner, Brussels.
Prof. CRÈPIN, Rue de l'Esplanade, Brussels.
FROEBEL, OTTO, Neumunster, Zurich.
BOYSON, 28 bis, Rue de la Bretagne, Caen, France
JEAN SISLEY, Montplaisir, Lyons.
KELTEN FRÈRES, Luxemburg.

NATIONAL CARNATION & PICOTEE SOCIETY'S SHOW.

JULY 23rd, 1889.

SCHEDULE OF PRIZES.

CARNATIONS.

CLASS.		
A.	24 Blooms, not less than twelve *dissimilar* varieties. *Four Prizes* …	40/- 30/- 20/- 15/-
B.	12 Blooms, *dissimilar* *Six Prizes.*	30/- 25/- 20/- 15/- 10/- 7/6
C.	6 Blooms, *dissimilar.* *Six Prizes.*	20/- 15/- 10/- 7/6 5/- 3/-
D.	Single Specimens, viz., Scarlet Bizarres, Crimson Bizarres, Pink Bizarres, Purple Flakes, Scarlet Flakes, Rose Flakes. *Five Prizes in each Class.* … …	4/- 3/- 2/6 2/- 1/-
	Premier Carnation, selected from the whole Exhibition … … …	5/-

PICOTEES.

E.	24 Blooms, not less than twelve *dissimilar* varieties. *Four Prizes.* …	40/- 30/- 20/- 15/-
F.	12 Blooms, *dissimilar.* *Six Prizes.*	30/- 25/- 20/- 15/- 10/- 7/6
G.	6 Blooms, *dissimilar.* *Six Prizes.*	20/- 15/- 10/- 7/6 5/- 3/-
H.	Single Specimens, viz., Red, heavy-edged, Red, light-edged; Purple, heavy-edged; Purple, light-edged; Rose, heavy-edged; Scarlet, heavy-edged; Rose, light-edged; Scarlet, light-edged; and Yellow Ground. *Five Prizes in each Class* … …	4/- 3/ 2/6 2/- 1/-
	Premier Picotee, selected from the whole Exhibition … … …	5/-

MISCELLANEOUS: SELFS AND FANCIES.

I.	24 Blooms, not less than twelve *dissimilar* varieties *Six Prizes.* … …	40/- 30/- 25/- 20/- 15/- 10/-
K.	12 Blooms, *dissimilar.* *Six Prizes.*	25/- 20/- 15/- 10/- 7/6 5/-
L.	12 Blooms, Yellow Ground, not less than six to be *dissimilar.* *Four Prizes*	30/- 20/- 15/- 10/-
M.	6 Blooms. *Five Prizes.* … …	20/- 15/- 10/- 7/6 5/-
N.	12 Specimens, *dissimilar*; (taken from any Class or Classes, including Tree Carnations), in bloom, in pots not exceeding 8½ inches in diameter. *Three Prizes* …	40/ 30/- 20/

The object of the Prizes in Class N is to develop excellence as decorative subjects, and the Judges will be instructed to award the Prizes for cultural excellence, and a liberal head of flowers, which may not be shown on Cards. The Plants may have been lifted from the open ground, and the pots may contain one or more Plants, at the discretion of the Exhibitor.

Certificates will be awarded to Seedlings if of first-class merit.—Not less than Two Blooms of a Variety must be shown.

Note.—Prizes of 5/- and 3/- will be awarded (if worthy) to Seedlings in each of the Classes of Carnations and Picotees, including in the latter the Yellow grounds.

CONDITIONS FOR EXHIBITORS
AT THE
CARNATION AND PICOTEE SHOW.

1.—The Prizes are open to all Exhibitors whether Subscribers or not.

2.—All Specimens to be shown on Cards, excepting only Class N. Exhibits must be legibly named. *Triplicates may not be shown in Classes* A, E, *and* I.

3.—An Exhibitor can win one Prize only in each class, except in the Classes for Seedlings, in which there is no limit ; and in single Specimens he may not exhibit more than two in each Class, but may win with both exhibits.

4.—B, C, F and G are open to Amateurs only. Exhibitors in B and F may not exhibit in C and G, nor may Exhibitors in I compete in K, nor L in M.

5.—Notice of entry must be given to Mr. Barron, Royal Horticultural Society, Chiswick, W., and of the Classes proposed to be shown in, at least *four clear days* before the day of Show.

6.—The subjects must be ready for the Judges at Eleven a.m. Exhibitors are requested to apply for their cards immediately after their arrival at the place of Exhibition.

7.—To obtain uniformity, it is urged that the Collections be shown in each case in Boxes, of which, for twelves, the following are the dimensions, viz. :—three rows of four each, from centre to centre, 3¾ inches ; from centre to outside 2¼ inches ; outside length, 15¾ inches ; width 12 inches ; depth 4¾ inches ; to be painted a dark Green. The collections of sixes should be in three rows of two each ; with the flowers at the same distance from centre to centre, and centre to outside, as in the collection of twelves. The collections of twenty-fours may be composed of two Boxes of twelves, making three rows of eight in each row, or in one box as may be convenient to the Exhibitor, but the same spaces should exist between the flowers.

8.—At the time when the Judges commence their work, all persons present, save the officers and their assistants, must retire from the Exhibition. The decision of the Judges shall be final.

9.—All Plants and Flowers shown in the Schedule Classes must have been the *bonâ fide* property of the Exhibitor or his employer at least two months previous to the date of the Exhibition.

10.—Seedlings, whether exhibited in Collections or not, are eligible for Certificates, due notice having been previously given in writing to the Secretary. Each Plant or Flower must have the Entry Card carefully placed with it.

11.—No person shall be allowed to compete as an Amateur who publishes a list of plants for sale, with the exception of Seedlings of his own raising.

GREAT VEGETABLE CONFERENCE AT CHISWICK.

SEPTEMBER 24th, 25th, and 26th.

SCHEDULE.

Cultivators are invited to exhibit in the following classes :—

A.—POTATOES.

1.	Collection of varieties	9 tubers of each.
2.	25 varieties	9 ,, ,,
3.	12 ,, suited for garden culture	9 ,, ,,
4.	6 ,, ,, field or farm culture	9 ,, ,,
5.	Collection of varieties grown in America or in France, or any part of the Continent	9 ,, ,,
6.	Any new seedling variety not in commerce	9 tubers (6 additional to be supplied for cooking)

B.—GOURDS.

1. . Collection of varieties.
2. . ,, ,, useful.
3. . ,, ,, ornamental.
4. . 12 varieties.
5. . Largest specimen.
6. . Any new seedling variety not in commerce ; if edible, a sample to be supplied for cooking.

C.—ONIONS.

1.	Collection of varieties	6 bulbs of each.
2.	6 varieties	6 ,, ,,
3	1 variety	8 ,, ,,
4.	Varieties best adapted for salad and table use.	

D.—CAULIFLOWERS.

1.	Collection of varieties	2 heads of each.
2.	1 variety	3 heads.

E.—CABBAGE.

1.	Collection of varieties	2 of each.
2.	4 varieties	2 ,,
3.	1 variety	3 heads.

F.—SAVOYS.

1.	Collection of varieties	2 of each
2.	1 variety	3 heads.

G.—BORECOLES AND KALES.

1.	Collection of varieties	2 of each.

H.—BRUSSELS SPROUTS.

1.	Collection of varieties	2 plants of each, to be shown standing upright.
2.	1 variety	3 plants, do. do.
3.	½ peck of any variety.	

I.—BEANS.

1	Scarlet Runner	1 variety, not less than 30 pods
2.	Dwarf	1 „ „ „

J.—PEAS.

	1 variety	Not less than 30 pods.

K.—GARDEN TURNIPS.

1.	Collection of varieties	4 roots of each.
2.	4 varieties	4 „
3.	1 variety	6 „

L.—PARSNIPS.

1.	Collection of varieties	4 roots of each.
2.	1 variety	6 „

M.—CARROTS.

1.	Collection of varieties	6 roots of each.
2.	1 variety	6 „

N.—BEET.

1.	Collection of varieties	4 roots of each.
2.	1 variety	6 „

O.—CELERY.

1.	Collection of varieties	4 heads of each.
2.	4 varieties	4 „
3.	1 variety	6 „
4.	Celeriac.	6 roots.

P.—CARDOONS, 3 heads.

Q.—GLOBE ARTICHOKES, 3 heads.

R.—TOMATOES.

1.	Collection of varieties	Not less than 5 fruits of each.
2.	4 varieties	5 „
3.	1 variety	12 „

S.—CUCUMBERS.

1. . 1 brace.
2. . Ridge varieties, grown in the open ground, 6 fruits.

T.—LETTUCES, COS.
1. . Collection of varieties . . . . . . 2 of each.
2. . 2 varieties . . . . 3 „
3. . Varieties suitable for small salad.

U.—LETTUCES, CABBAGE.
1. . Collection of varieties . . . . . . 2 of each.
2. . 2 varieties . . . . 3 „
3. . Varieties suitable for small salad.

V.—ENDIVES.
1. . Collection of varieties.
2. . 2 varieties, 1 curled, 1 Batavian.

W.—SALAD.
Collection.

X.—HERBS.
1. . Collection . . . . 1 bunch of each.

Y.—MUSHROOMS.
1. . 1 dish.
2. . Collection of Edible Fungi.

Z.—NEW VEGETABLES, any kind, and vegetables that are comparatively unknown.

In order to present as much information as possible to the public, cards will be provided by the Society for the exhibitors to fill in, giving the name of the variety shown, date when sown or planted, general merits, &c., &c.

Forms will also be provided for the exhibitors to fill up, giving particulars of culture for publication in the Society's Journal.

Papers will be read in the afternoons of each day, and discussion invited. The programme will be published as soon as completed.

Dishes will be provided by the Society.

Intending exhibitors should communicate with

MR. A. F. BARRON,
ROYAL HORTICULTURAL SOCIETY GAR
CHISWICK, W.

VEGETABLE CONFERENCE COMMITTEE.

Chairman.

*H. J. Veitch, F.L.S., Chelsea.

Vice-Chairman.

*Rev. W. Wilks, Shirley Vicarage, Croydon.

Alderman, H., Morden Hall, Morden, Surrey.
Allan, W., Gunton Park, Norwich.
Austen, J., Witley Court, Stourport.
Bardney, W., Norris Green, West Derby, Liverpool.
*Barr, P., 12, King Street, Covent Garden.
*Bates, W., Poulett Lodge, Twickenham.
*Beale, E. J. (Messrs. Carter & Co.), 237, High Holborn
Beckett, T. A., Cole Hatch Farm, Penn, Amersham.
Benary, E., Erfurt.
Bloxham, G., Great Brickhill Manor, Bletchley.
Breese, G., Petworth Park, Petworth.
Burnett, J., The Deepdene, Dorking.
Chettleburgh, W., Worstead House, Norwich.
Clayton, H. J., Grimston Park, Tadcaster.
Coleman, W., Eastnor Castle, Ledbury.
Culverwell, W., Thorpe Perrow, Bedale.
Davidson, P., Iwerne House, Shaftesbury.
*Dean, A., Bedfont, Hounslow.
Deverill, H., Banbury.
Divers, W. H., Ketton Hall, Stamford.
Dunn, M., Dalkeith, N.B.
Elphinstone, W., Shipley Hall, Derby.
Fidler, C., Reading.
Fish, D. T., Hardwicke House, Bury St. Edmunds.
Gilbert, R., Burghley, Stamford.
Haines, S., Coleshill, Highworth.
Hall, E., Bolton Hall, Bedale.
*Herbst, H., Kew Road, Richmond, Surrey.
*Hibberd, S., 1, Priory Road, Kew.
*Hudson, J., Gunnersbury House, Acton.
Hunter, Mr. (Messrs. Austin & McAslan), Seedsmen, Glasgow

Hughes, J , Eydon Hall, Byfield, Northampton.
Iggulden, W., Marston, Frome.
Ker, W., Dumfries.
Laing, J., Forest Hill.
Lambert, J., Onslow Hall, Shrewsbury.
Lye, J., Market Lavington, Devizes.
McIndoe, J., Hutton Hall, Guisborough.
May, J., Northaw House, Barnet
Mead, W., Beckett Park, Shrivenham.
Methven, J. (T Methven & Son), Princes Street, Edinburgh.
*Miles, G. T, Wycombe Abbey, High Wycombe
*Moss, A. (Messrs. J. Wrench & Sons), King William Street, E.C.
Muir, J., Margam Park, Taibach, South Wales.
*Nutting, W. J., 106, Southwark Street, S.E.
Poupart, W., Twickenham
Pragnell, W. G., Sherborne Castle, Dorset.
Richards, G. H., Somerley, Ringwood.
*Roberts, J., Gunnersbury Park, Acton.
Ross, C., Welford Park, Newbury.
*Sherwood, N. N. (Messrs. Hurst & Son), 152, Houndsditch, E.
*Silverlock, C. (Messrs Rulley & Silverlock), Savoy Street, Strand.
*Smith, J., Mentmore, Leighton Buzzard.
Smith, W. G., Dunstable.
*Sutton, A. W., Reading.
Thomson, D., Drumlanrig, Thornhill, N.B.
Vilmorin, H., Paris.
Waite, C. G., Glenhurst, Esher.
Walker, J., Whitton.
Waterman, A., Preston Hall, Aylesford.
Watkins, A. (Messrs. Watkins & Simpson), Exeter Street, Strand.
Webb, Edward, Stourbridge.
Westcott, R., Raby Castle, Darlington.
Wiles, E. S., Edgecote Park, Banbury.
*Willard, J., Holly Lodge, Highgate.
*Wright, J., 171, Fleet Street, E.C.
*Wythes, G., Syon House, Brentford.

* These form the Executive Committee.

A. F. BARRON Royal Horticultural Gardens, Chiswick,
Secretary.

CHRYSANTHEMUM CENTENARY CONFERENCE AT CHISWICK.

NOVEMBER 13th and 14th, 1889.

The following Schedule represents the general idea of the Conference, but must not be regarded as in any sense final, as negotiations are now in progress for the formation of a large representative Committee, by whom all the details of the arrangements will be made, and which will be announced in due course. Upwards of 900 varieties of Chrysanthemums are now being grown for trial at Chiswick.

PLANTS.

CLASS.

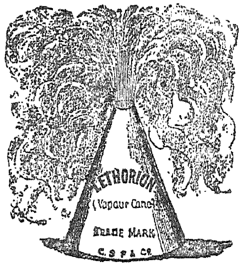
1. Group of 24 Japanese Varieties.
2. ,, 24 Incurved ,,
3. ,, 24 Reflexed ,,
4. ,, 24 Pompon ,,
5. ,, 12 Anemone ,,
6. ,, 12 Hybrid Anemone Varieties.
7. ,, 12 Single-Flowered ,,
8. ,, Plants grown in the most natural manner.
9. The most representative group of all classes.
10. New Varieties. Certificates.

CUT FLOWERS.

11. Japanese, 12 varieties, single blooms.
12. Incurved, 12 ,, ,,
13. Reflexed, 12 ,, ,,
14. Pompons, 12 ,, 3 spikes of each.
15. Anemones, 12 ,, ,,
16. Hybrid Anemones, 6 varieties ,,
17. Single-flowered, 12 ,, ,,
18. Box, 12 White Varieties, distinct.
19. ,, 12 Yellow ,, ,,
20. ,, 12 Orange or Bronze Varieties, distinct.
21. ,, 12 Red or Crimson ,, ,,
22. ,, 12 Lilac or Pink ,, ,,
23. The most representative Collection of all classes.
24. New Varieties. 3 flowers of each. Certificates.

H. M. POLLETT & CO., HORTICULTURAL PRINTERS, FANN STREET, ALDERSGATE STREET, E.C.

LETHORION.



For destroying parasitic life on plants with a certainty hitherto unachieved, and with no possible risk to the most delicate flower or foliage, even if used three times the strength mentioned.

Fumigating with Tobacco Paper or Rag is quite unnecessary. See reports from some of the most practical Gardeners of the day.

PRICES.

Cone.	Cubit Feet.		Each.	Per Case
				Two doz.
No. 0.	50	(for Window Cases and Small Frames from 10 cubic feet) ..	6*d.*	10*s.* 6*d.*
,, 1.	100	(for Frames, &c.)	9*d.*	15*s.* 0*d.*
		These Small Cones are especially adaptable for pit or frames where no other remedy can be used with safety.		One doz.
,, 2.	500	(for Small Lean-to's, &c.)	1*s.* 3*d.*	13*s.* 6*d.*
				Half-doz.
,, 3.	1,000	(for General Use in Large Greenhouses)	2*s.* 0*d.*	11*s.* 0*d.*

Directions for use with each Cone.

The vapour from these Cones having great affinity for the air, it is necessary to see that the house is thoroughly secure, in which case for thrips and fly the Cones will be found effective at half the strength mentioned above. For mealy bug, spider or scale, they may be used two or three times the strength effectual for fly, and no possible injury will follow.

Testimonial Sheets forwarded on application.

Used in the Royal Gardens and the principal Nurseries and Gardens throughout the United Kingdom.

PREPARATIONS FOR HORTICULTURAL USES.

STANDENS MANURE.

Established over 20 Years.

This old-established Manure is acknowledged by practical Gardeners to exceed all others in general fertilising properties and staying powers.

For VINES it cannot be too highly recommended, and this fact is fully sustained from the result obtained by its use in the hands of some of the most successful Grape growers.

It is a clean and dry powder, with very little smell, which renders it particularly *adaptable for ladies* interested in plant culture.

The ECONOMY of using this highly concentrated Manure is apparent, for it will be found that *very small quantities* produce favourable and lasting results.

Sold in new and enlarged Tins, 1*s.*, 2*s.* 6*d.*, 5*s.* 6*d.* and 10*s.* 6*d.* each; and in Kegs at Reduced Prices—28 lbs., 12*s.* 6*d.*; 56 lbs., 23*s.*; 112 lbs., 42*s.* each.

NICOTINE SOAP.

An Insecticide which has been proved to be completely destructive to insect life, without affecting in the slightest degree the most delicate plants. Prices, 1*s.* 6*d.*, 3*s.*, 5*s.* 6*d.* and 15*s.* 6*d.*; 28 lbs., 25*s.*; 56 lbs., 50*s.*; 112 lbs., 95*s.*

THE "LONDON" TOBACCO JUICE.

For horticultural purposes. It is highly concentrated, and contains the strength of 42 ozs. of best strong leaf tobacco in each gallon. In Bottles, 1*s.*, 2*s.* 6*d.* and 5*s.* each; and in Casks at 2*s.* 6*d.* per gallon. Extra quality, specially prepared for evaporating purposes, 10*s.* 6*d.* per gallon.

THE "LONDON" TOBACCO POWDER.

For destroying and preventing Insects, Blights and Mildews on Plants and Trees. It is easily applied by dusting, and will not in any way harm either plants or trees. In Tins, 1*s.*, 2*s.* 6*d.*, 5*s.* and 10*s.* each; and in Bags, 28 lbs., 18*s.*; 56 lbs., 36*s.*; 112 lbs., 72*s.* each.

FOWLER'S LAWN SAND.

For destroying Daisies, Dandelions, Plantains, Ribbed Grass, Thistles, and other Weeds on Lawns, Croquet Grounds, Bowling Greens, Parks, &c.; at the same time acting as a fertiliser, and improving the growth and colour of the Grass. Price, in Tins 1*s.*, 2*s.* 6*d.* and 5*s.*; Kegs, 10*s.*, 19*s.* and 36*s.*

ELLIOTT'S ORIGINAL "SUMMER CLOUD" SHADING.

For Greenhouses, Conservatories, Skylights, and all glass structures that require shading material. In Packets, 1*s.* each.

To be obtained of all Seedsmen, Nurserymen and Florists.

SOLE MANUFACTURERS:

CORRY, SOPER, FOWLER & Co., LIMITED,
LONDON, E.C.

THE

ROYAL HORTICULTURAL SOCIETY.

OFFICES:—117, VICTORIA STREET, S.W.

REPORT

OF

THE COUNCIL

FOR THE YEAR 1888-1889,

WITH

REVENUE ACCOUNT AND BALANCE SHEET.

The attention of Fellows is particularly requested to the List
of Names and Addresses, any corrections in which
should be sent at once to the Secretary.

GARDENS:—CHISWICK, W.

EXHIBITION HALL—JAMES' STREET, VICTORIA STREET, S.W.

LONDON:
PRINTED FOR THE ROYAL HORTICULTURAL SOCIETY,
BY
H. M. POLLETT & CO., HORTICULTURAL STEAM PRINTERS, FANN STREET, E.C.

NOTICES TO FELLOWS.

NOTA BENE—

ERRATA IN SCHEDULE OF ARRANGEMENTS, 1890.

PAGE 13.

August 12th.—For "on Fruit *Growing*," read "on Fruit *Drying*."

PAGE 14. Yellow Slip. Additional Prizes for Roses.

Class VII.—Add "*For Nurserymen only.*"

Class VIII.—Read "Twelve varieties of Moss *or Provence* Roses in bunches, *not less than* 3 *trusses to a bunch.*"

Class IX.—Add "£1 10s. 0d., £1 0s. 0d."

PAGE 17.

July 8th.—Take out the words "and Conference at Chiswick," which have slipped up from the line below, which should read thus:—"July 22nd and 23rd.—Carnation, Fern, and Selaginella Exhibition and Conference at Chiswick."

REPORT OF THE COUNCIL

OF THE

ROYAL HORTICULTURAL SOCIETY

FOR THE YEAR 1889.

THE work of the Royal Horticultural Society cannot be said to have stood still during the year 1889. Three most useful Conferences have taken place at Chiswick—viz.: on Roses, on July 2nd and 3rd; on Vegetables, on September 24th, 25th, and 26th; and on Chrysanthemums, on November 5th and 6th; and the excellent results thus obtained, together with the most valuable statistics and returns sent in by the kindness of correspondents all over the United Kingdom, with a few from foreign horticulturists, will, as recorded in the Society's *Journal*, form an authoritative standard of reference on the subjects concerned for some years to come.

Sixteen Fruit and Floral Meetings have been held in the Drill Hall, every one of which has been productive of good results to one or other of the different branches of practical horticulture. The number of awards has been as follows: On the recommendation of the Floral Committee, 54 First Class Certificates, 84 Awards of Merit, 4 Botanical Certificates, 3 Commendations. On the recommendation of the Fruit and Vegetable Committee, 7 First Class Certificates, 3 Awards of Merit. On the recommendation of the Orchid Committee, 27 First Class Certificates, 7 Awards of Merit, and 12 Botanical Certificates.

The Society's great Show, held (by the renewed kindness of the Treasurer and Benchers) in the Inner Temple Gardens, was even more magnificent than in the preceding year, the collection of Orchids, in particular, having probably surpassed any collection ever before gathered into one place. The best thanks of the Society are due to all those (and especially to the amateurs) who so generously lent their plants for exhibition.

Nor has the Scientific Committee been idle, and the notes of their Meetings, as given in the Society's *Journal*, will be found full of interesting and valuable information to all horticulturists.

Meantime, the Society's general work of scientific experiment and investigation, and of the practical trial of various plants, has been going on steadily at Chiswick, under the superintendence of Mr. Barron. Trial has been made of 104 varieties of Potatoes; 50 vars. of Broccoli; 108 vars. of Vegetable Marrows, Pumpkins, and Gourds; 30 vars. of Onions; 30 vars. of Brussels Sprouts; and 41 vars. of Peas. Amongst Flowers, trial has been made of 270 varieties of Garden Annuals, 66 vars. of China Asters, 20 vars. of Stocks, 190 vars. of Dahlias, besides Zonal and other Pelargoniums; Lemoine's New Hybrid Gladioli, Penstemons, Heliotropes, Iris, &c. Ivies, of which the Society possesses a very fine collection, have been specially examined and classified. Reports on these trials will appear in the *Journal*. Of Chrysanthemums, 800 varieties were grown, and these not only added very materially to the display at the Chrysanthemum Centenary Conference, but, from not being so severely disbudded, as is usually the case in producing the show blooms, the plants themselves, as well as the blossoms, were greatly admired. A large sum of money has this year been spent on the Gardens. Extensive repairs have been done to the glasshouses, and the general keeping up of the Gardens greatly improved. The breaking down of two of the largest boilers threatened a great addition to outlay, but the liberal gift from Messrs. Foster and Pearson of one of their Patent Chilwell Boilers greatly reduced the expenditure under this head. A new hybrid Tomato, considered to be one of the best in cultivation, has been raised by Mr. Barron, and the seed distributed amongst the Fellows. The experiment of opening the Gardens on Sundays has not met with such success as the Council had hoped, but they have decided to continue it—at least, for the present year; and then, if the privilege should not prove to be more highly valued, it may have to be abandoned, as, besides the additional work thrown on the Officers on their one rest day in the week, it also entails considerable expense on the Society. The meetings held at Chiswick during the year, though successful in all else, have not been quite so successful in point of numbers as the Council had hoped; and they venture to think that in the year now commencing those Fellows who were so strongly in favour of meetings at Chiswick should make it their business by every means in their power, privately or through the Press, to increase the numbers attending.

But perhaps the chief event of the year has been the revival of the Society's *Journal*, by means of which Fellows at a distance are enabled to enter more fully into and reap the benefits of the study and work of those more actively engaged at the centre. Four volumes, containing about 750 pages, have been issued during the twelvemonth, and the Council have the gratification of knowing, from numerous letters received, that these volumes have been highly appreciated, not only in this country, but by correspondents all over the world.*

The invaluable work of 376 pages, on "British Apples," which Mr. Barron was able to produce as the outcome of the "Apple Conference, 1888," is now being re-issued by the Society in a cheap and popular edition, at the price of eighteenpence only. It may be as well to point out that unless this issue should command a very large circulation, it will entail a great loss to the Society; but the Council have felt, in face of the wide-

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*A few remaining copies of Vol. xi., Parts i., ii., and iii., may now be purchased at half price, *i.e.*, Part i., 6*d.*, Part ii., 2*s.* 6*d.*, Part iii., 2*s.* 6*d.*

spreading interest taken in British fruit culture, and of the fact that this book is a standard work upon Apples, that it was their duty to encounter this risk, hoping that individual Fellows would endeavour to promote its sale amongst their neighbours and friends.

All these Conferences and Meetings, and especially the work and maintenance of the Chiswick Gardens and the publication of the *Journal*, have involved the Society in a very large outlay, and the Council take this opportunity of endeavouring to impress upon Fellows the absolute necessity there is for them all individually (as many as have the Society's welfare at heart) to endeavour to secure new Fellows to the Society if its work is not only to be continued at its present standard, but still more so if the ever-opening and extending opportunities of usefulness are to be embraced and accepted. The adoption of £1 1s. as one rate of subscription was, no doubt, a popular movement, but the Council desire to remind the Fellows that such a low rate of Fellowship can only be self-supporting if it draws into the Society a very large number (far larger than at present exists) of additional Fellows. The Council, therefore, venture to express the hope that every Fellow of the Society will make an endeavour to obtain at least one new Fellow during this present year. A statement of the privileges of Fellows and of the aims and objects of the Society, together with a form of nomination to Fellowship, is for this purpose enclosed with this Report.

The revival of Lectures at the Afternoon Meetings has been another good feature in the year's work, and the Council hope that as the fact of these Lectures and their value become more generally known, through their publication in the *Journal*, that the attendance of Fellows to hear them, and to take part in the discussions, will gradually increase. The Council cannot but think that many of the Fellows are unaware of the immense interest and value of these regular bi-monthly Meetings and the Lectures so kindly delivered thereat; and they beg to express, in their own name and in that of all Fellows of the Society, their very best thanks to all those gentlemen who have so kindly contributed, either by the exhibition of plants, fruits, flowers, or vegetables, or by the reading of papers, to the success of these Meetings.

The papers read at these bi-monthly Meetings, all of which have been published in the *Journal*, are as follows:—

MARCH 12 . . .	"On Saxifrages," by Mr. J. G. Baker, F.R.S., F.L.S.
,, . . .	"Culture of Saxifrages," by Mr. Geo. Paul.
,, . . .	"Saxifrages," by Mr. Reuthe.
MARCH 26 . . .	"Dutch Hyacinths," by Heer A. E. Barnaart.
,, . . .	"Culture of Hyacinths," by Heer J. H. Kersten.
,, . . .	"Hyacinths in England," by Mr. James Douglas.
APRIL 9	"The Narcissus," by Mr. F. W. Burbidge, M.A., F.L.S., M.R.I.A.
,, . . .	"Seedling Daffodils," by Rev. G. H. Engleheart, M.A.
,, . . .	"Portuguese Narcissi," by Mr. A. W. Tait, F.L.S.
APRIL 23 . . .	"The Auricula," by Rev. F. D. Horner, M.A.
MAY 14	"On Irises," by Professor Michael Foster, Sec. R.S.
JUNE 11 . . .	"Orchid Culture," by Mr. H. J. Veitch, F.L.S.
JUNE 25 . . .	"The Strawberry," by Mr. A. F. Barron.
,, ...	"Strawberry Culture for Market," by Mr. G. Bunyard.
JULY 2	"Roses," by the Very Rev. the Dean of Rochester, D.D.
,, ...	"Pruning Roses," by the Rev. A. Foster-Melliar, M.A.
,, ...	"Groups of Roses," by Mr. William Paul, F.L.S.
,, ...	"Stocks for Roses," by Mr. E. Mawley, Sec. N.R.S.

JULY 2	"Roses since 1860," by Mr. George Paul.
„	"Decorative Roses," by Mr. T. W. Girdlestone, M.A., F.L.S.
„	"On Rosa polyantha as a Stock," by Mons. Viviand Morel.
JULY 3	"The Botany of Roses," by Mr. J. G. Baker, F.R.S., F.L.S.
„	"Rose Hybridisation," by the Right Hon. Lord Penzance.
„	"A New Classification of Roses," by Professor F. Crépin.
JULY 23 . . .	"The Florist's Carnation," by Mr. Shirley Hibberd.
AUGUST 13 . . .	"Peaches and Nectarines," by Mr. Francis Rivers.
SEPTEMBER 25 .	"On Vegetables," by Mr. H. J. Veitch, F.L.S.
„ .	"On Asparagus," by Mr. Shirley Hibberd.
„ .	"Winter Salads," by Mr. Norman.
SEPTEMBER 26 .	"The Food of Vegetables," by Mr. J. Wright.
„ .	"Peas since 1860," by Mr. T. Laxton.
„ .	"Potatoes since 1860," by Mr. A. Dean.
„ .	"How to have Vegetables all through the Year," by Mr. J. Smith.
OCTOBER 8 . . .	"On Conifers," by Mr. W. Coleman.
OCTOBER 22 . .	"Pears," by Mr. W. Wildsmith.
NOVEMBER 5 . .	"Chrysanthemums," by Mr. T. B. Haywood.
„ .	"Chrysanthemum History," by Mr. C. Harman Payne.
„ .	"New Chrysanthemums," by Mr. E. Molyneux.
„ ,	"Judging Chrysanthemums," by Mr. J. Wright.
„ .	"Progress in Chrysanthemums," by Mr. Shirley Hibberd.
NOVEMBER 6 . .	"Botany of the Chrysanthemum," by Mr. Botting Hemsley, F.R.S.

NOVEMBER 6 .	"Chrysanthemum Seed and Seedlings," by Mr. F. W. Burbidge, F.L.S.
,, .	"Dwarfing Chrysanthemums," by Mr. C. Orchard.
,, .	"Market Chrysanthemums," by Mr. C. Pearson.
,, .	"Early Chrysanthemums," by Mr. W. Piercy.

The hearty thanks of the Society are due to the Chiswick Board and to all the Members of the Standing Committees—viz., the Scientific, the Fruit and Vegetable, the Floral, the Orchid, and the Narcissus Committees, for the most kind and patient attention which they have severally given to their departments; to the exhibitors and members of the Special Committees also, who have contributed to so great an extent to produce the magnificent results of the Rose, Vegetable, and Chrysanthemum Conferences. And herein the Council cannot refrain from thanking especially the Very Rev. the Dean of Rochester, Mr. Harry J. Veitch, Mr. Shirley Hibberd, Mr. Molyneux, and Mr. Mawley, together with all the officers of the National Rose Society, who so cordially, and with such kindly feeling, co-operated in the Society's labours.

In conjunction with the Lindley Library Trustees, the Society's Library has received considerable attention. Several defective series (notably the *Botanical Magazine*, now complete from its commencement) have been made good up to date, and a large number of untidy but valuable volumes have been bound.

The best thanks of the Society are due to all those who, either at home or abroad, have so kindly and liberally presented books to the Library or plants or seeds to the Gardens. Special thanks are due to those gentlemen who have so kindly contributed Carnations, in view of the Conference in July. A list of the donors has been prepared, and will appear in the next number of the *Journal*.

The Council recognise as fully as anyone can the great desirability of securing more suitable premises than the present Drill Hall affords, and they are now anxiously engaged in considering a scheme for erecting a suitable building on the Thames Embankment, which, if ever accomplished, would, they hope, not only afford ample facilities for our own Society, but also, in time, form a centre for all kindred Horticultural Associations. But they must remind Fellows that the adoption of this scheme is purely a matter of funds, and would entail a very large outlay, and until they can see their way to provide this, they fear that no better place than the Drill Hall can, under the circumstances, be readily found.

The Council have the sad duty of recording the death of forty of the Fellows of the Society during the past year. Amongst them they regret to find the names, Reichenbach, Boscawen, and Berkeley.

Besides the losses from death, the Council deeply grieve to have to record the loss of thirty-nine Fellows by resignation. The Society has been struggling bravely for the last two years in the face of many adverse circumstances, and with the burden, financially speaking, of a large number of Life Fellows—from whom it derives no income whatever—bequeathed to it by a former generation; and the Council had hoped that, with the evidence which even this Report gives of renewed life and vigour and usefulness, the Society would have retained the good-will and support, and for a time the forbearance of all who had joined it. They have, however, the pleasure of adding that a greater number have joined the Society than have left it. Still, as they said in another paragraph, they wish to impress very strongly the fact that the Society needs a large augmentation before it will be financially possible to embrace the many opportunities of usefulness opening before it. The following tabular statement will show the relations of increase and decrease during the year, both in the number of Fellows and the income arising therefrom :—

Deaths in 1889.

		£	s.	d.
Life Fellows	22	0	0	0
4 Guineas	3	12	12	0
2 ,,	9	18	18	0
1 ,,	9	9	9	0
	43	£40	19	0

Resignations in 1889.

		£	s.	d.
4 Guineas	4	16	16	0
2 ,,	22	46	4	0
1 ,,	23	24	3	0
	49	£87	3	0
Total	92	£128	2	0

Fellows Elected in 1889.

		£	s.	d.
2 Guineas	61	128	2	0
1 ,,	202	212	2	0
Associates	2	1	1	0
New Fellows	265	£341	5	0
Deduct		128	2	0
Total Increase in Income		£213	3	0

265 New Fellows.
92 to deduct.

Total Increase in Numbers 173

ROYAL HORTICULTURAL SOCIETY

Dr. ANNUAL REVENUE ACCOUNT, for the Year ending, 31st DECEMBER, 1889. Cr.

	£	s.	d.	£	s.	d.
To ESTABLISHMENT EXPENSES—						
Salaries and Wages ...	347	19	8			
Rent of Offices	120	0	0			
Printing and Stationery...	99	13	1			
Publications—Journal, &c.	498	17	8			
Postage	142	3	0			
Coal, Gas, and Water ...	11	1	3			
Miscellaneous	47	14	11			
Furniture and Fittings ...	16	17	0			
Library—Books and Binding	22	5	6			
				1,306	12	1
,, CHISWICK GARDENS—						
Rents, Rates, Taxes and Insurance	278	9	10			
Superintendent's Salary...	225	0	0			
Labour	722	14	2			
Implements, &c.... ...	122	19	7			
Coal and Coke	243	16	8			
Repairs	148	9	11			
Water and Gas	25	2	7			
Miscellaneous	77	19	0			
				1,844	11	9

	£	s.	d.	£	s.	d.	£	s.	d.
By ANNUAL SUBSCRIPTIONS							2,136	19	0
,, SHOW—TEMPLE							408	15	6
,, MEETINGS and CONFERENCES ...							29	5	6
,, ADVERTISEMENTS							122	5	6
,, MISCELLANEOUS							28	3	6
,, DIVIDENDS—DAVIS BEQUEST and PARRY LEGACY							59	10	0
,, CHISWICK GARDENS—									
Produce sold				678	2	8			
Admission and Members' Tickets				15	16	9			
Miscellaneous				8	10	0			
Chiswick Horticultural Society—									
Balance of 1888	3	10	0						
Subscription ...	40	0	0						
	43	10	0						
Less Expenses	10	3	7						
				33	6	5			
							735	15	10
							3,520	14	10

,, SHOWS, MEETINGS, and CONFERENCES—							BALANCE TO GENERAL REVENUE ACCOUNT	453	12	1
Rent of Drill Hall and Cleaning	94	9	0							
Special Show—Temple ...	431	13	10							
Advertising	57	11	9							
Prizes and Medals ...	18	1	4							
Floral Meetings and Conferences—Printing, &c.	80	0	8							
Floral Meetings and Conferences—Labour ...	55	15	1							
Superintendent of Flower Shows	50	0	0							
Grants in Aid	20	0	0							
Miscellaneous	2	8	11							
				810	0	7				
,, DONATIONS, &c.—										
Amount transferred				13	2	6				
				£3,974	6	11		£3,974	6	11

We have examined the above Accounts with the Books and Vouchers, and find the same correct.

(Signed), GEORGE DEAL, HARRY TURNER, HENRY WILLIAMS, } *Auditors.*

January 24th, 1890.

ROYAL HORTICULTURAL SOCIETY.

BALANCE SHEET, 31st DECEMBER, 1889.

Dr.

	£	s.	d.	£	s.	d.
To Sundry Creditors ...	...			772	4	11
,, Donations Received—						
Balance of Account ...	...			400	0	0
,, General Revenue Account—						
Balance at Credit of that Account, 1st Jan., 1889	2,103	5	3			
Less Balance for the year 1889	453	12	1			
				1,649	13	2
				£2,821	18	1

Cr.

	£	s.	d.	£	s.	d.
By Debtors, viz.—						
Annual Subscriptions outstanding	27	6	0			
Garden Produce	61	11	11			
Journal—Macmillan & Co.	0	5	5			
Chiswick Horticultural Soc.	36	0	0			
				125	3	4
,, Investments—2¾ °/o Consols, £2,122 8*s.* 9*d.* *cost* ...	...			1,892	11	3
(£2,022 8*s.* 9*d.* of this sum is held by the Society, subject to the provisions of the Will of the late J. Davis, Esq.).						
,, Balance as per Cash Book	...			400	6	3
,, London and County Bank—						
Donation Account... ...	...			400	0	0
,, Petty Cash in Hand ...	...			3	17	3
				£2,821	18	1

We have examined the above Accounts with the Books and Vouchers, and find the same correct,

(Signed), George Deal, } *Auditors.*
Harry Turner,
Henry Williams,

January 24th, 1890.

LIST
OF THE
COUNCIL, OFFICERS AND FELLOWS
OF THE
Royal Horticultural Society.

OFFICES:
117, VICTORIA STREET, S.W.
AND
THE GARDENS, CHISWICK.

Corrected to January 31st, 1890.

PATRON: HER MOST GRACIOUS MAJESTY THE QUEEN.

PRESIDENT.
SIR TREVOR LAWRENCE, BART, M.P.

VICE-PRESIDENTS.
SYDNEY COURTAULD.
T. B. HAYWOOD.
BARON HENRY SCHRÖDER.
SIR CHARLES STRICKLAND, Bart.

TREASURER.
D. MORRIS, M.A., F.L.S.

SECRETARY.
REV. W. WILKS, M.A.

COLONEL BEDDOME.
J. R. BOURNE.
W. COLEMAN.
JAMES DOUGLAS.
GEORGE PAUL.
H. J. PEARSON.
T. FRANCIS RIVERS.
A. H. SMEE.

HONORARY OFFICERS:
AUDITORS.
GEORGE DEAL.
WILLIAM RICHARDS.
HARRY TURNER.
HENRY WILLIAMS.

FOREIGN CORRESPONDING SECRETARIES.
ROBERT HOGG, LL.D., F.L.S.
MAXWELL T. MASTERS, M.D., F.R.S.

OFFICERS:
GARDEN SUPERINTENDENT.
A. F. BARRON.

CHIEF CLERK.

CLERK TO THE COUNCIL.
W. R. B. TANN.

BANKERS.
LONDON AND COUNTY BANKING COMPANY (Westminster Branch).

* The Council for 1890—91 will be elected at the Annual Meeting to be held on February 11th, 1890.

The Royal Horticultural Society.

1890.

PATRON.

HER MAJESTY THE QUEEN.

PRESIDENT.

SIR TREVOR LAWRENCE, BART., M.P.

HONORARY MEMBERS.

HIS MAJESTY THE KING OF THE HELLENES, K.G.
HIS MAJESTY THE KING OF THE BELGIANS, K.G.
HIS SERENE HIGHNESS THE DUKE OF SAXE COBURG-GOTHA, K.G.
H.I.H. THE GRAND DUKE NICHOLAS OF RUSSIA.
PROFESSOR ALPHONSE DE CANDOLLE. *Geneva.*
SIR J. D. HOOKER, K.C.S.I., C.B., M.D., *late Director Royal Gardens, Kew.*
GEORGE KING, M.B., F.L.S., *Supt. Royal Botanic Gardens, Calcutta.*
M. NAUDIN, *Director of the Botanic Garden, Antibes.*
BARON SIR FERD. VON MUELLER, K.C.M.G. *Govt. Botanist, Melbourne.*
DR. E. VON REGEL, *Director Imperial Botanic Garden, St. Petersburgh.*
DR. RICHARD SCHOMBURGK, *Director Botanic Garden, Adelaide.*

FOREIGN MEMBERS.

BERNAYS, LEWIS A., Clerk of the Legislative Assembly, Brisbane, Queensland.
CANDOLLE, CASIMIR DE, Bellevue, near Geneva.
CORNU, Professor MAXIME, Jardin des Plantes, Paris.
DE CANNAERT, D'HAMALE FR., Malines.
DE LA DEVANSAYE, A., President of the Horticultural Society of Angers and Maine et Loire, Chateau du Fresne Par Noyant, Maine et Loire.
DU BREUIL, Professor A., Route de Caen à Lisieux (Calvados).
FENZI, CAVALIERE EMMANUEL O., President of the Royal Tuscan Society of Horticulture, viâ San Gallo 10, Florence.
HOHENSTEIN, Count FRANCIS VON, Tetschen Castle, Bohemia.
KERCHOVE DE DENTERGHEM, Count OSWALD DE, Ghent, Belgium.
KERNER, Dr. ANTON, Director of the Imperial Botanic Garden, Vienna.
LEITCHLIN, MAX, Baden-Baden.
MACOWAN, Professor PETER, B.A., Director Botanic Garden, Cape Town, South Africa.
MOORE, CHARLES, F.L.S., Director, Botanic Garden, Sydney.
OPPENHEIM, EDWARD, Cologne.
SARGENT, Professor C. S., Director of the Arnold Arboretum, Brooklyn Massachusetts, U.S.A.
TREUB, Dr. MELCHIOR, Buitenzorg, Java.
VAN VOLXEM, JEAN, 1, Rue Zinner, Brussels.
VILMORIN, HENRY L. DE, Quai de la Megisserie, Paris.
WATSON, DR. SERENO, Keeper of the Herbarium, Harvard University, Cambridge, Massachusetts, U.S.A.
WENDLAND, HERMANN, Director of the Botanic Garden, Herrenhausen, Hanover.

CORRESPONDING MEMBERS.

ADLAM, R. W., Town Bush Valley, Pietermaritzburg, Natal.
ANDRÉ, EDOUARD, 30, Rue Chaptal, Paris.
BABO, Baron A. VON, Klosterneuburg, Austria.
BARBEY, WILLIAM, Valleyres, Vaud, Switzerland.
BARRY, PETER, Rochester, New York, U.S.A.
BERNARDIN, CAMILLE, Brie Comte Robert, Seine et Marne, France.
BILIOTTI, A., H.B.M. Consul, Canea, Crete.
BICHAUFF, Hon. FREDK., M.P., J.P., Adelaide, South Australia.
BLEU, A., Secretary National Horticultural Society of France, Rue de Grenelle 84, Paris.
BOOTH, JOHN, 114, Kurfürstendamm, Berlin.
BULLEN, ROBERT, Curator, Botanic Garden, Glasgow.
BURBIDGE, F. W., M.A., Trinity College Botanical Garden, Dublin.
CARRIÈRE, E. A., Rue de Vincennes 140, Montreuil sous Bois, Seine, France.
CARUEL, Professor T., Florence.
CORREVON, H., Jardin d'Acclimatation, Geneva.
CRÉPIN, FRANÇOIS, Rue de l'Esplanade 8, Brussels.
CUSIN, L., of Lyons.
DIECK, Dr. G., Zoschen, near Merseburg, Prussia.
DOUMET-ADANSON, NAPOLÉON, Secretary Horticultural Society of the Rhone and of the Pomological Society of France, France.
DUCHARTRE, P., Rue de Grenelle 84, Paris.
DUPUY, l'Abbe D., Professor of Natural History, Auch, France.
DUTHIE, JOHN F., B.A., Botanical Department, Saharunpore, Bengal.
ENGLER, Professor Dr., Royal Botanic Gardens, Breslau.
FAWCETT, W., Director, Public Gardens, Jamaica.
FINDLAY, BRUCE, Curator and Secretary, Royal Botanical Gardens, Manchester.
FORD, C., Botanic Garden, Hong Kong.
FORSTER, OTTO, Lehenhof, Austria.
FRÖEBEL, OTTO, Zurich.
GOËZE, Dr. E., Botanische Garten, Griefswald, Prussia.
GROVES, HENRY, 15, Borgognisanti, Florence.
GUILFOYLE, W. R., Botanic Garden, Melbourne, Victoria.
GUNN, RONALD, Launceston, Tasmania.
HANSEN, CARL, Director, Agri-Horticultural College, 6, Svanholmsveg, Copenhagen.
HENRIQUES, Professor Dr., Coimbra, Portugal.
JOLY, CHARLES, Vice-President National Horticultural Society of France, 11, Rue Boissy d'Anglas, Paris.
JÜHLKE. FERD., Director Royal Gardens of Sans Souci, Potsdam, Prussia.
KANITZ, Professor Dr. AUG., Royal Botanic Garden, Kolozsvar, Hungary.
KEGELJAN, FERD., Secretary Horticultural Society, Namur, Belgium.
KOLB, MAX, Botanic Gardens, Munich, Bavaria.
KRELAGE, J. H., Haarlem, Holland.
LANDRETH, B., Philadelphia, U.S.A.
LANGE, Dr. JOHAN, Copenhagen.
LAURENTIUS, H., Leipzig.

LAWSON, Dr. GEORGE, Halifax, Nova Scotia.
LAWSON, MARMADUKE A., Director Public Gardens, Madras.
LEAKE, GEO. WALPOLE, Q.C., Perth, Western Australia.
LINDSAY, ROBERT, Royal Botanic Gardens, Edinburgh.
LUBBERS, L., Botanic Gardens, Brussels.
LYNCH, R. IRWIN, Botanic Gardens, Cambridge.
MANNING, ROBERT, Boston, U.S.A.
MASSANGE DE LOUVREX, D., Baillonville, Liège, Belgium.
MASSANGE DE LOUVREX, FERDINAND, Chateau de St. Gilles, Liège, Belgium.
MAXIMOVICZ, Professor C. J., St. Petersburg.
MEEHAN, THOMAS, Germantown, Philadelphia, U.S.A.
MICHELIN, HENRI, 21, Rue de Clichy, Paris.
MOORE, F. W., Royal Botanic Gardens, Glasnevin, Dublin.
NEILSON, GEO., Curator, Gardens of Royal Horticultural Society of Victoria, Australia.
NIEPRASCHK, J., Director of the Royal Flora Gardens, Cologne.
ORTGIES, ED., Inspector, Botanic Gardens, Zurich, Switzerland.
PLOWRIGHT, C. B., F.L.S., 7, King Street, King's Lynn.
RICHARDSON, W., Curator, Botanic Gardens, Liverpool.
RODIGAS, EMILE, Royal Society of Natural History, Zoological Garden, Ghent.
STEIN, B., Botanic Garden, Breslau.
STOLL, Dr. RUDOLF, Klosterneuberg, Austria.
TAIT, ALFRED W., 115, Entre Quintas, Oporto.
THURSTON, Sir J. B., K.C.M.G.. Lieutenant-Governor, Fiji.
TRIMEN, H., M.B., Director, Royal Botanic Garden, Ceylon.
WATT, G., M.D., C.I.E., Calcutta.
WILLKOMM, Professor Dr. M., Prague.
WITTE, H., Jardin Botanique de l'Université, à Leide (Pays bas).
WITTMACK, Dr. L., 102, Chausseestrasse, Berlin.
WOLKENSTEIN, P., Sourash, Tchernigofski, Selo Visokoë, Russia.

FELLOWS.

The figures indicate number of Guineas subscribed. (*) *Denotes a Life Membership conferred by the Council, under Bye-law* 15.

	2	H.R.H. THE PRINCE OF WALES, K.G.
	2	H.R.H. THE PRINCESS OF WALES.
	2	H.R.H. THE DUKE OF EDINBURGH, K.G.
	2	H.R.H. THE DUKE OF CONNAUGHT, K.G.
	2	H.I.M. THE EMPRESS FREDERICK OF GERMANY.
	2	H.R.H. THE PRINCESS CHRISTIAN.
	2	H.R.H. THE PRINCESS LOUISE, MARCHIONESS OF LORNE.
	2	H.R.H. THE PRINCESS BEATRICE (PRINCESS HENRY OF BATTENBERG).
	4	H.R.H. THE DUKE OF CAMBRIDGE, K.G.
	2	H.R.H. THE PRINCESS MARY, DUCHESS OF TECK.
	2	H.S.H. THE DUKE OF TECK.
	1	ABBOTT, Mrs., Abbottsleigh, Clifton, Bristol.
*	1	ABBOTT, FRANCIS, Botanic Garden, Hobart, Tasmania.

2 ABERDARE, The Right Hon. Lord, 1, Queen's Gate, S.W., and Duffryn, Aberdare.
2 ACKLAND, Rev. CHARLES TABOR, M.A., St. Ann's Vicarage, Highgate, N.
2 ACTON, Sir J. DALBERG, Bart., Aldenham House, Salop.
2 ADAMS, F. C., Churchill Chambers, 20, Old Bond Street, W.
2 ADAMS, HERBERT, J., Roseneath, London Road, Enfield.
1 ADDINGTON, JOHN WALTER, Westand House, St. Neots, Hants.
4 ADDINGTON, Lord, 23, Cadogan Place, S.W.
2 AILESBURY, The Marchioness of, 78, Pall Mall, S.W.
1 AINSLIE, W., Highstead, Torquay.
1 AITKEN, A., The Gardens, Richings Park, Colnbrook, Slough.
1 AITKIN, Mrs., Eaton Lodge, Wellesley Road, Gunnersbury.
4 AITON, Mrs., 58, Clifton Park Road, Clifton.
4 ALDAM, WILLIAM, Frickley Hall, Doncaster.
4 ALDRIDGE, Mrs. JOHN, St. Leonard's Forest, Horsham.
2 ALEXANDER, EDWARD,
1 ALEXANDER, G. R., 7, Sutton Court Road, Chiswick.
2 ALEXANDER, Mrs., 30, Belgrave Square, S.W.
1 ALEXANDER, Mrs., 42, Warwick Road, S.W.
1 ALEXANDER, Rev. A. B., Shedfield Vicarage, Botley, Hants.
4 ALINGTON, Right Hon. Lord, Crichel, Wimborne, Dorset.
1 ALLBUTT, T. CLIFFORD, M.D., F.R.S.
1 ALLINGHAM, WILLIAM, Cleveland, Beech Road, Reigate.
1 ALLIS, G. R., Old Warden Park, Biggleswade.
4 ALLISTON, F. P., St. Fillans, Grassington Road, Eastbourne.
2 ALLMAN, Professor, F.R.S., Ardmore, Parkstone, Dorset.
4 AMES, EDWARD, L., Clevelands, Lyme, Dorset.
4 AMES-LYDE, Mrs., Thornham Cottage, King's Lynn, Norfolk.
4 AMHERST, WM. A. TYSSEN, M.P., Didlington Park, Brandon.
4 AMOS, J. C., West Barnet Lodge, Barnet.
2 ANDERDON, WILLIAM M., 2, Conduit Street, Regent Street, W.
1 ANDERSON, ANDREW, Horticultural Society of Ballarat, Ballarat, Australia.
1 ANDERSON, J., Streatham Grove, Norwood.
2 ANDERSON, JAMES, T., 135, Commercial Street, E.
2 ANDERSON, JOHN ANDREW, Hillside House, Faversham, Kent.
2 ANDERSON, Mrs. ALEX., 10, Atholl Gardens, Glasgow.
1 ANDERSON, Rev. CHARLES G., Otterhampton Rectory, Bridgewater.
1 ANN, FRANK WILLIAM, Chase Side, Winchmore Hill, N.
4 ANSON, The Viscount, Shugborough, Stafford.
4 ANTROBUS, HUGH LINDSAY, 65, Eaton Square, S.W.
1 APPLEBY, HENRY, Dorking.
1 APTHORPE, W. H., Albion Brewery, Cambridge.
2 ARBUTHNOT, FREDERICK GEORGE, Bridgen Place, Bexley.
2 ARCHDAL, Capt. MERVYN E., Carlton Club, S.W.; and Castle Archdall, Fermanagh, Ireland.
2 ASHBURTON, LOUISA, Lady, Melchet Court, Romsey.
2 ASHTON, THOMAS, Ford Bank, Manchester.

2 ASSBEE, JOHN, Covent Garden Market, W.C.
1 ASTLE, W. G. DEVON, 160, Denmark Hill, S.E.
1 ASTLE, WM., 160, Denmark Hill, S.E.
2 ATKINS, H. P., Daleside, Belvedere, Kent.
4 AUCKLAND, Lord, Edenthorpe, Doncaster.
1 AULAGNIER, LOUIS E., 27, King Street, Covent Garden, W.C.
1 AUSTEN, Captain, Clevelands, Barrowgate Road, Chiswick.
2 AUSTIN, HENRY, The Grange, Canterbury.
2 AYLESFORD, The Dowager Countess of, The Friars, Aylesford, Kent.

4 BACKHOUSE, JAMES, Fishergate Nurseries, York.
4 BADGER, E. W., Midland Counties Herald Office, Birmingham.
4 BAGOT, The Lady, Blithfield, Rugeley.
2 BAILEY, Sir J. RUSSELL, Bart., M.P., Glanusk Park, Crickhowell.
2 BAINES, Mrs. MATTHEW, 11, Cranley Place, Onslow Square, S.W
1 BAINES, THOMAS, Fern Cottage, Palmer's Green, N.
1 BAKER, GEO. ALFRED, Charlton Nursery, near Staines.
*BAKER, J. G., F.R.S., Royal Herbarium, Kew.
4 BAKER, LAWRENCE J., 28, Queen's Gate, S.W.
1 BAKER, WALTER JOSEPH, Cottisbrooke, Wallington.
1 BAKER, WILLIAM LAWRENCE, 12, Grosvenor Road, Chiswick.
2 BAKER, WILLIAM Y., Aspen House, Streatham Hill, S.W.
2 BALDERSON, HENRY, Corner Hall, Hemel Hempstead.
1 BALFOUR OF BURLEIGH, Lord, Kennett House, Alloa, N.B.
1 BALFOUR, Professor ISAAC BAYLEY, F.R.S., Royal Botanic Gardens, Edinburgh.
1 BALLANTINE, HENRY, The Dell Gardens, Staines.
2 BALLARD, Mrs., 48, Addison Road, Kensington, W.
2 BANTING, Mrs. WILLIAM, Jun., 22, Campden Hill Road, W.
2 BANTING, Mrs. T., 8, Abbot's Walk, Reading.
1 BAPTY, S. LEE, 3, Queen Victoria Street, E.C.
2 BARCHARD, ELPHINSTONE, Duddleswell, Uckfield.
2 BARCHARD, FRANCIS, Horsted Place, Uckfield.
4 BARCLAY, THOS. GEORGE, Lower Woodside, Hatfield.
4 BARCLAY, WM. LEATHAM, The Briars, Reigate.
1 BARKER, C. F. (English Fruit and Rose Company), King's Acre, Hereford.
1 BARLOW, S., Stakehill House, Castleton, Manchester.
2 BARNARD, HERBERT, 23, Portland Place, W.; and Park Gate, Ham Common, Surrey.
1 BARNETT, E., Kenton Court, Sunbury.
2 BARRACLOUGH, G. W. LONSDALE, 46, King Edward Road, South Hackney, E.
2 BARRAND, Mrs., 2, Stanford Road, Kensington, W.
2 BARRELL, G. F., Mercia Lodge, The Parks, Spalding.
2 BARRETO, Baron De, Berkeley House, Hyde Park Square, W.; and Brandon Park, Suffolk.
4 BARRON, WILLIAM, Borrowash, Derby.
2 BARR, PETER, 12, King Street, Covent Garden, W.C.

1 Bartholomew, A. C., Park House, Reading.
2 Bartholomew, Charles, Castle Hill House, Ealing, W.
2 Bartholomew, Mrs. William, Lansdowne House, Ladbroke Grove, Notting Hill, W.
1 Barton, Charles W., Glendalough House, Aranoe, Greystones, Ireland.
1 Barton, Hon. Mrs., Straffan House, Straffan Station, Ireland.
2 Barton, Miss J. C., 8, Lowndes Square, S.W.
2 Bassano, Madame, 12, Montagu Place, Montagu Square, W.
4 Bassett, Richard, Ivy House, Highclere, Newbury.
2 Bateman, James, F.R.S , Home House, Worthing.
2 Bateman, Lord, Shobden Court, Shobden, Herefordshire.
1 Bates, W., The Gardens, Poulett Lodge, Twickenham.
4 Bath, The Marchioness of, Longleat, Warminster.
1 Batten, Isaac, Berryfield, Bickley, Kent.
1 Batten, James, Highfield, Bickley, Kent.
2 Bausè, C. F., Nurseryman, Norwood, S.E.
2 Baxter, Arthur, Hutton Park, Brentwood.
2 Bayly, Robert, Torr Grove, Plymouth.
4 Bazley, Dow. Lady, Riversleigh, Lytham, Lancashire.
4 Bazley, Sir T. S, Bart., Hatherop Castle, Fairford, Gloucestershire.
1 Beach, T. W., Ealing Road Gardens, Brentford.
2 Beale, Edward John, F.L.S., Stoneydeep House, Teddington Grove.
1 Beale, Mrs. Lionel, Caines Wood, Weybridge.
2 Bean, Alfred William, Danson Park, Welling, Kent.
2 Beard, Neville, The Mount, Ashbourne.
2 Beaton, Walter Hardy, 6, Netherhall Gardens, Hampstead, N.W.
2 Beaufort, Rev. D. A., 33, Belmont Hill, Lewisham, S.E.
2 Beddome, Colonel, Sispars, West Hill, Putney, S.W.
2 Beebe, Alfred G., 7, Palace Road, Streatham Hill, S.W.
1 Begley, Mrs., 26, St. Peter's Square, Hammersmith, W.
2 Behrens, Mrs. L. W. F., Newfield House, Forest Hill, S.E.
2 Bellgrove, G. W., Florist, 47, Old Broad Street, E.C.
2 Bell, John, 15, Douro, Place, Kensington, W.
4 Belper, The Dowager Lady, 75, Eaton Square, S.W.
2 Benary J. Ernst, Erfurt, Saxony.
1 Benedict, Walter C., 59, Newington Butts, S.E.
1 Bennett, William, Rangemore Gardens, Burton-on-Trent.
4 Benyon, Richard, M.P., 34, Grosvenor Square, W.; and Englefield House, Reading.
2 Berners, Mrs. Hugh, 12, Eaton Square, S.W.
2 Berners, Rev. Hugh A., Harkstead Rectory, Ipswich.
2 Berridge, Robert, 15, Highbury Grove, N.
2 Berrington, A. Davies, Pantygoitre, Abergavenny.
2 Berry, Mrs., The Palace, Much Hadham, Herts.
2 Best, Hon. Henry M., 7, Connaught Square, W.
2 Best, Major Mawdestley, Park House, Boxley, Maidstone.
1 Bettison, Samuel, Trevarrick Cottage, St. Austell, Cornwall.
1 Betts, Charles H., Horninglow Cross Nursery, Burton-on-Trent.
1 Bevan, Frank A., 60, Prince's Gate, S.W.

1 Bevan, Mrs. Frank A., 60, Prince's Gate, S.W.
2 Bevan, Mrs. R.
4 Bevan, R. C. L.
2 Beveridge, Erskine, St. Leonard's Hill, Dunfermline, N.B.
2 Bewes, Charles, Gravesend, Torpoint, Devonport.
1 Bewsher, S., St. Paul's School, West Kensington, W.
2 Biddell, Sidney, 32, The Grove, Bolton Gardens, S.W.
1 Bignold, Mrs. S. Cecil, 4, Burlington Gardens, Chiswick.
2 Bilke, John, 1, Chester Square, S.W.
1 Bindlass, Mrs. Carnforth, Brondesbury Park, N.W.
4 Binney, Alexander Thomas, 10, Queen's Gate Place, S.W.
4 Bird, Augustus, Wood Lane, Shepherd's Bush, W.
1 Bird, H. T., 10, Arlington Park Gardens South, Chiswick.
1 Bird, Mrs., Oakwood, Weybridge.
4 Bird, P. Hinckes, 1, Trafalgar Square, Fulham Road, S.W.
1 Birdwood, Sir George C. M., K.C.I.E., C.S.I., M.D., 7, Apsley Terrace, Acton, W.
2 Birkett, John, 62, Green Street, Grosvenor Square, W.
4 Bischoffsheim, H. L., 75, South Audley Street, W.
1 Bishop, George Arthur, The Grove, Teddington.
1 Bishop, Major-General W. D., 140, Holland Road, Kensington, W.
4 Bishop, William Henry, Junr., Culverden Lodge, Tunbridge Wells
1 Blackburn, E. M., Park House, Southborough, Tunbridge Wells.
4 Blackburn, Lord, Doonholm, Ayr, N.B.
2 Blackmore, R. D., Teddington.
2 Blackwell, Samuel J., Brookshill, Harrow Weald, Stanmore.
1 Blair, Peter C., The Gardens, Trentham, Stoke-on-Trent.
2 Blake, H. W., F.R.S., 8, Devonshire Place, Portland Place, W.
2 Blake, Major, Mylnhurst, Millhouses, Sheffield.
2 Blake, Wm., School Lane, Liverpool.
1 Blakiston, Rev. C. D., Linslade Vicarage, Leighton Buzzard.
2 Blandford, Walter F. H., 48, Wimpole Street, W.
2 Blenkinsopp, Benjamin, Shord Hill, Kenley, Surrey.
1 Blick, Charles, The Warren, Hayes Common, Beckenham.
1 Bliss, Rev., W. B., M.A., Wicken Rectory, Newport, Essex.
1 Bloom, Miss E., 22, St. Leonard's Terrace, Chelsea College, S.W.
1 Bloxam, Richard, Eltham Court, Eltham, Kent.
1 Bluhm, H., Denholme, Blackheath Park, S.E.
1 Bodey, G. T., 99, Loughborough Park, S.W.
2 Bohn, Henry, 142, Holland Road, Kensington, W.
2 Bolitho, T. B., M.P., Union Club, Trafalgar Square, W.C.
2 Bolton, Mrs. George, 16, Merrion Square North, Dublin.
2 Bolton, T. Dolling, 3, Temple Gardens, Temple, E.C.
1 Bonavia, Dr. E., 54, Torrington Square, W.C.
2 Bond, F. Walters, 22, Hyde Park Square, W., and Wargrave Hill, Henley-on-Thames.
2 Bond, Richard S., Rodbury, Uxbridge Road, Surbiton.
2 Bonsor, Mrs., 11, Upper Belgrave Street, S.W.
2 Bosanquet, Mrs. Godfrey, 15, Prince of Wales Terrace, Kensington, W.

1 Bosanquet, Percival, Ponfield, Hertford.
4 Boucherett, H. B., Willingham, Market Rasen.
4 Boucicault, Dion.
2 Bourne, J. R., 77, Great Russell Street, W.C.
2 Bourne, Mrs.
1 Bovill, Mrs., 1, Lion Gate Gardens, Richmond.
1 Bowman, Rev. Arthur Gerald, The Vicarage, Kennington, S.E.
1 Bowman, Mrs. A. G., The Vicarage, Kennington, S.E.
1 Bowman, Miss Eliza, 5, Clifford Street, W.
4 Bowman, Sir William, Bart., F.R.S., 5, Clifford Street, Bond Street, W.
2 Bowring, Edgar A., C.B , 30, Eaton Place, S.W.
4 Bowring, John Charles, Forest Farm, Windsor Forest.
4 Bowyer, Charles, 30, George Street, Hanover Square, W.
1 Boyce, George, Chertsey.
1 Boyle, Hon. Mrs. R., Huntercombe Manor, Maidenhead.
2 Brabazon, Lieut.-Colonel Moore, 43, Onslow Square, S.W.; and J.U.S. Club, Charles Street, S.W.
4 Brabey, F., Bushey Lodge, Teddington.
1 Braby, Clement, Clinton House, Burlington Gardens, Chiswick.
2 Bradshaw, R. Giles, 23, Christchurch Road, Streatham Hill, S.W.
4 Brand, James, Sanderstead Court, Surrey.
4 Brandreth, Edward, 32, Elvaston Place, S.W.
2 Brassey, Albert, 29, Berkeley Square, W., and Heythrop, Chipping Norton.
2 Brassey, Hon. Mrs. Albert, 29, Berkeley Square, W., and Heythrop, Chipping Norton.
4 Brassey, Henry Arthur, 6, Cromwell Houses, S.W.; and Preston Hall, Aylesford, Kent.
1 Breese, Geo. M., The Gardens, Petworth Park, Sussex.
1 Brice, Mrs., Athgarvan, Turnham Green.
2 Brickwell, Capt., R.N., 51, Eardly Crescent, S.W.
2 Bridge, Miss Maria, 78, Eaton Square, S.W.
1 Bridger, F., The Gardens, Penhurst Castle, Penhurst, Kent.
2 Briggs, Charles A., Surrey House, Church Street, Leatherhead.
1 Briscoe-Ironside, Henry, Foot's Cray, Kent.
1 Bristowe, Sydney C., Weybridge Common.
1 Broad, Chas. S., Clarence Lodge, Willesden, N.W.
2 Brodhurst, Mrs. Bernard E., 20, Grosvenor Street, W.
2 Bromwich, James, 25, Buckingham Palace Road, S.W.
1 Brooke, Arthur, 1, Rupert Road, Bedford Park, Chiswick.
2 Brooke, Edward, Pabo Hall, near Conway.
4 Brooks, Sir William Cunliffe, Bart., M.P., 5, Grosvenor Square, W.
1 Brooks, William, Whitecross Nurseries, Weston-super-Mare.
2 Brown, John Ednie, F.L.S., Conservator of Forests, Adelaide, South Australia.
4 Brown, Samuel, Loftus Hill, Knaresborough.
2 Brown, Sidney R., Madeira, 16, Marlborough Road, Chiswick.
2 Brown, William Smith, Digswell, Welwyn.
1 Browne, Dr. W. H., The Laurels, Aldborough, Hull.

1g.2 Browne, Mrs., Breaghwy, Castlebar, co. Mayo, Ireland.
2 Browne, Rev. R. H. Nisbett, 120, Inverness Terrace, Bayswater, W.
2 Browning, Edward C., 70, Onslow Gardens, S.W.
2 Browning-Hall, Miss, Ravenswood, West Wickham, Kent.
1 Brunner, Mrs., Winnington Hall, Northwich, Cheshire.
4 Brymer, W. E., M.P., Ilsington House, Dorchester.
4 Buccleuch and Queensbury, Duchess of, Montague House, Whitehall, S.W.
4 Buccleuch, The Dowager Duchess of, Ditton Park, Slough.
1 Buck, C. W., Covent Garden Market, W.C.
2 Buckler, J. Russell, Lower Gannicore, Stroud.
4 Buckley, Mrs. J. W., Hill Place, Ashurst Wood, East Grinstead.
1 Budd, S. P., 8, Gay Street, Bath.
1 Budgett, James S., Stoke Park, Guildford.
2 Bullen, J. N., Streatham Common, S.W.
4 Buller, John Francis, Morval, Sandplace, Cornwall.
4 Bulloch, Mrs. James, 26, Holland Park, W.
2 Bull, William, F.L.S., King's Road, Chelsea, S.W.
2 Bunbury, Edward Herbert, 35, St. James' Street, S.W.
2 Bunyard, Geo., The Nursery, Maidstone.
1 Bunyard, Thomas, The Nurseries, Ashford, Kent.
1 Burbidge, F. W., M.A., Trinity College Botanic Garden, Dublin.
4 Burdett-Coutts, Baroness, Stratton Street, Piccadilly, W.; and Holly Lodge, Highgate, N.
4 Burkinyoung, Henry, 46, Philbeach Gardens, S.W.
1 Burn, John, Abbey Park, Leicester.
4 Burnaby, Mrs. H. F., Buckland Rectory, Buntingford, Herts.
2 Burnand, A. C., 14, Hyde Park Gate, S.W.
1 Burnett, John, Deepdene, Dorking.
1 Burrell, James E., 32, Gloucester Road, Kew.
1 Burroughes, T. H., 16, Lower Berkeley Street, W.
1 Bushnell, Robert, 15, Sutton Court Road, Chiswick.
2 Busk, Stephen, 9, Park Street, W.
1 Butcher, Albert, Belle Grove, Welling, Kent.
1 Butcher, Thomas, George Street, Croydon.
1 Butler, James, Lothringer, 5, North Common Road, Ealing, W.
2 Butler, J. W., 60, St. George's Square, S.W.
1 Butler, Thos., The Albert Hotel, Victoria Street, S.W.
1 Butler, T. R., The Gardens, Oakleigh, Edgware, Middlesex.
2 Butt, George Frederick, 3, Newland Place, Kensington, W.
1 Butt, Henry, Ellerslie, Arlington Park, Gunnersbury.
1 Butterworth, Joshua W., 45, Russell Road, Kensington, W.

4 Cabbell, Benjamin Bond, Cromer Hall, Norfolk.
2 Calthorpe, Lieut.-Genl. The Hon. Somerset G., 16, Queen's Gate Place, S.W.; and Woodlands, Ryde.
2 Calthorpe, Lord, 33, Grosvenor Square, W.
4 Cama, Dorabjee Pestonjee, 3 and 4, Winchester Street Buildings, E.C.
1 Cammell, Geo. H., Brookfield Manor, Heathersage, Sheffield.

1 CAMMELL, Mrs., Loxwood House, Billinghurst, Sussex.
4 CAMPBELL, A. H., 8, Cornwall Gardens, S.W.
2 CAMPBELL, ANDREW, North Meols Nurseries, Roe Lane, Southport.
1 CAMPBELL, THOMAS, Waterside, Disley, Stockport.
1 CAMPBELL-BROWN, D , The Croft, Oban, N.B.
2 CANDLER, GEORGE A., Newlands, New Park Road, Clapham Park, S.W.
2 CANNELL, HENRY, Swanley.
1 CANNON, W. HANDEL, Avenue Lodge, Merton, Surrey.
1 CANT, FRANK, Mile End Nurseries, Colchester.
2 CAPEL, FRANK C., 5, Throgmorton Street, E.C.
4 CARBERY, The Countess of, Castle Freke, Co. Cork, Ireland.
2 CAREW, Mrs. R. R., Carpenter's Park, Watford.
1 CAREY, JOSEPH, Drynoch House, New Malden, Surrey.
4 CARINGTON, RICHARD SMITH, Worcester.
4 CARLISLE, S. E., Thatched-house Club, St. James's Street, S.W.
2 CARPMAEL, Miss, The Ivies, St. Julian's Farm Road, West Norwood.
1 CARR, JONATHAN THOMAS, Tower House, Bedford Park, Chiswick.
1 CARSON, JOHN, 37, Collins Street East, Melbourne.
2 CARTWRIGHT, Mrs.,
2 CASS, Rev. F.C., M.A., Hadley Rectory, Barnet.
1 CASTLE, LEWIS, Hotham House, Merton, Surrey.
2 CATER, R. B., Bath.
4 CATHCART, ROBERT, Pitcairlie, Auchtermuchty, Fife, N.B.
1 CATOR, ALBEMARLE, 83, Eaton Square, S.W.
2 CATTLEY, Mrs. FRANCES CATHERINE, Claydene, Eden Bridge, Kent.
2 CAUSTEN, ALBERT J., Lodgemoor, Alleyn Park, West Dulwich, S.E.
4 CAVE, Lady, 35, Wilton Place, S.W.
1 CHALMERS, Mrs. F., Farrants, Bickley.
2 CHAMBERLAIN, EDMUND T., 1, College Terrace, College Road, Harrow.
2 CHAMBERLAIN, The Rt. Hon. JOSEPH, M.P., 40, Prince's Gardens, S.W.
2 CHAMBERS, B. E. C., Grayswood Hill, Haslemere.
2 CHAPMAN, D. B., F.L.S., 33, Queen's Gate, S.W. ; and Roehampton, S.W.
2 CHAPPELL, ROBERT S., Savile House, Burlington Gardens, Chiswick.
2 CHARLESWORTH, J., Heaton, Bradford.
4 CHASE, THOMAS A. N., Avon Lodge, Leamington.
2 CHASTON, H. R., 3, Tierney Road, Streatham Hill, S.W.
2 CHEAL, ALEXANDER, Lowfield Nurseries, Crawley, Sussex.
2 CHEAL, JOSEPH, Lowfield Heath, Crawley, Sussex.
1 CHERRILL, NELSON K., Grosvenor Mansions, Bournemouth.
2 CHESTER, Mrs., Pines Hill, Bishop's Stortford.
4 CHEYLESMORE, Lord, 16, Prince's Gate, S.W.
1 CHINNERY, JOHN, Cefntilla Court, near Usk, Monmouthshire.
1 CHIVERS, JOHN, Histon, Cambridge.
2 CHOLMLEY, ALFRED JOHN, Newton, Rillington, Yorkshire.
4 CHRISTIE-MILLER, W. H. A., 21, St. James's Place, S.W.
1 CHRISTIE, Mrs., Kingston House, Kew.
2 CHRISTMAS, W., 32, Fordwych Road, Kilburn Priory, N.W.
2 CHRISTY, JOSEPH FELL, Upton, Alresford, Hants.
2 CHURCH, ARTHUR HERBERT, M.A., F.C.S., F.I.C., Shelsley House, Kew.

1 Churcher, Geo., Bridgemary House, Fareham, Hants.
1 Churchill, Charles, Weybridge Park, Weybridge.
1 Chute, Mrs., 3, Burlington Gardens, Chiswick.
1 Clabburn, J. G., Ferndale, Sutton Court Road, Chiswick.
1 Clairmonte, E. G., 7, Mincing Lane, E.C.
2 Clare, Octavius Leigh, East Sheen, S.W.
4 Clark, G. T., 44, Berkeley Square, W. ; and Dowlais House, Dowlais.
2 Clark, J., Studley Royal, Ripon.
1 Clark, John Willis, Scroope House, Cambridge.
1 Clark, Latimer, 25, Gledhow Gardens, S.W.
1 Clark, Mrs. Latimer, 25, Gledhow Gardens, S.W.
1 Clark, W. H., Roseneath, Blenkarne Road, Wandsworth Common, S.W.
2 Clarke, Colonel R. Trevor, Welton Place, Daventry.
2 Clarke, Mrs. Andrew,
2 Clarke, Stephenson, Croydon Lodge, Croydon.
2 Clarke, Mrs. Stephenson, Croydon Lodge, Croydon.
2 Clarson, Wm., 72, Little Collins Street East, Melbourne.
1 Clay, S. C., Temple Mill Lane, Stratford, E.
1 Clementi-Smith, Rev. A. E., St. Mary, Chadwell, Grays, Essex.
1 Clementi-Smith, E., 8, Marlboro' Crescent, Bedford Park, Chiswick.
2 Clementi-Smith, Rev. P., The Rectory, St. Andrew's Hill, Doctors' Commons, E.C.
4 Clendining, Miss, 29, Dorset Square, N.W.
1 Cliffe, G., The Gardens, Shoreham Place, near Sevenoaks.
2 Clifton, Henry R., Clifton Hall, Nottingham.
4 Climenson, Rev. John, Shiplake Vicarage, Henley-on-Thames.
1 Clive, R., Brynderrin, Pwllmeyric, nr. Chepstow.
2 Clowes, W., 1, Albert Villas, High Road, Gunnersbury.
2 Clutton, Henry, 9, Whitehall Place, S.W.
2 Clutton, Robert George,
2 Cobb, Walter, Silverdale Lodge, Sydenham, S.E.
4 Cobbold, Henry C., 15, Observatory Avenue, Campden Hill, W.
1 Cock, Mrs. C. R., 15, Marlborough Road, Gunnersbury.
2 Cockburn, John, 32, St. Andrew Square, Edinburgh.
2 Cockburn-Hood, Mrs. J., 49, Stanhope Gardens, S.W.
1 Cocker, James, Sunny Park, Aberdeen.
2 Cockle, Captain, 9, Bolton Gardens, S.W.
1 Codd, Mrs. R., 22, Flanders Road, Bedford Park, Chiswick.
4 Coghlan, Henry Thomas, 14, Hyde Park Gardens, W.
2 Cole, Mrs. William Henry, 64, Portland-place, W.
2 Colebrook, John, 13, William Street, Lowndes Square, S.W.
1 Coleman, Richard V., The Shrubbery, Buckland, Dover.
1 Coleman, William, Eastnor Castle Gardens, Ledbury.
1 Collet, Sir M. W., Bart., Bank of England, E.C.
1 Collins, Arthur Edwin, 39, Waterloo Road, S.E.
2 Collins, Edward, 10, Cumberland Park, Willesden Junction, N.
2 Collins, J. C., M.D., Steanbridge House, Stroud, Gloucestershire.
1 Collis, Mrs., 27, Queen Anne's Grove, Bedford Park, Chiswick.
2 Colman, Jeremiah, Gatton Park, Reigate.

1 Compton, T. H. E., Elvin House, Andover.
2 Concanon, James Blake, Albert Gate Mansions, S.W.
4 Consett, William Warcop P., 19, Portman Square, W.
2 Cook, Sir Francis, Bart., Doughty House, Richmond, Surrey.
2 Cooke, John, Howe Villa, Richmond, Yorkshire.
1 Cooke, Malcolm, S., Kingston Hill.
2 Cooke, Richard, The Croft, Detling, Maidstone.
2 Cookson, Norman, Oakwood, Wylam, R.S.O., Northumberland.
2 Cooper, Albert, Grimston Lodge, Haven Green, Ealing, W.
2 Cooper, John Omër, Calcot Gardens, Reading.
2 Cooper, John, Tandridge Court, Redhill.
1 Corner, John, 18, Albert Road, Regent's Park, N.W.
2 Corry, William Longman, 16, Finsbury Street, E.C.; and Shad Thames, S.E.
2 Corscaden, Mrs. John, 24, Holland Park, W.
2 Cotton, Right Hon. Sir Henry, 10, Sussex Square, W.
1 Cotton, Thomas A., Ullswater, Green Lanes, Finsbury Park, N.
4 Coulthurst, E., Streatham Lodge, Lower Streatham, S.W.
2 Courtauld, Sydney, Bocking Place, Braintree.
2 Courtenay, Major-General H. R., 9, Spring Gardens, Charing Cross, S.W.
2 Cousins, Charles William, 13, High Street, Wood Green, N.
1 Cowan, Chas. Wm., Valleyfield, Penicuik, N.B.
2 Cox, Henry Richard, 44, Lowndes Square, S.W.
4 Cranbrook, Viscount, 17, Grosvenor Crescent, S.W.
2 Crawford, J. A., 42, Clarendon Road, Notting Hill, W.
1 Crawshay, De Barri, Rosefield, Sevenoaks.
2 Cressy, Miss Adelene, Riverhead, near Sevenoaks.
1 Creyke, Alfred Richard, 112, Eaton Square, S.W.
1 Cripps, Mrs,, Tunbridge Wells.
1 Crispin, James, Chester Park, Fishponds, near Bristol.
1 Crocker, Henry, M.D., 45, Barrowgate Road, Chiswick.
1 Crofton, Mrs., 45, West Cromwell Road, S.W.
2 Crofts, James Henry, 1, Finch Lane, E.C.
4 Crooke, Henry, Reform Club, Pall Mall, S.W.; and Fenton's Hotel, St. James's Street, S.W.
1 Crosfield, Mrs. Morland, Baycliffe, Lymm, Cheshire.
2 Crowley, Philip, Waddon House, Croydon.
1 Croysdale, Thomas, Hawke House, Sunbury-on-Thames.
1 Crum, Mrs., Broxton Old Hall, Chester.
1 Cullingford, W. H., 198, Cromwell Road, S.W.
1 Cumberledge, Henry Mordaunt, Walstead House, Linfield, Sussex.
1 Cumming, H. J, Foston Hall, Derby.
2 Cundy, Charles, 1, Sepulchre Street, Sudbury, Suffolk.
2 Cuninghame, W. Smith, Caprington Castle, Ayrshire.
1 Cunliffe, Lady, Acton Park, Wrexham.
2 Cunninghame, Capt. Allason.
4 Curling, Rev. J. J., Merton Lea, Oxford.
1 Currey, C. Herbert, Croxley House, Weybridge Heath.
2 Currie, Sir Philip W., K.C.B., 27, Norfolk Street, Park Lane, W

1 Curtis, Herbert Edward, Ravenscroft Villa, Stanstead Road, Forest Hill, S.E.
2 Curwood, Mrs., 76, Sutherland Avenue, Maida Vale, W.
2 Cutbush, Herbert J., Highgate, N.
1 Cuthbert, V. C., South View, Holgate, York.
1 Cuthbertson, Michael, Rothesay, N.B.
1 Cuthbertson, William (Dobbie & Co.), Rothesay, N.B.
2 Cypher, J., Queen's Road, Cheltenham.

1 Dale, Henry T., Royal London Yacht Club, 2, Savile Row, W.
2 Dale, Robert Norris, Bromborough Hall, Cheshire.
1 Dale, W., Hickmandias Nursery, Knockholt, Sevenoaks.
4 Dalgety, F. G., 16, Hyde Park Terrace, W.
2 Dalrymple, W. C., 12, Cumberland Road, Kew.
2 Daniell, Edward James. Hill House, Hatfield, Herts.
2 Daniell, J. Le Geyt, 8, Bolton Gardens, S.W.
2 Daniel, Miss, 107, Eaton Square, S.W.
2 Daniels, J. S., Melford Lodge, Stamford Hill, N.
2 Darlington, H. R., Bourton Hall, Rugby.
4 Darnley, The Earl of, Cobham Hall, Gravesend.
4 Dartmouth, The Earl of, 40, Grosvenor Square, W.
1 Dart, W. J., Melrose Villa, Heathfield Road, Croydon.
2 Darwin, Francis, Kirkhill Hall, Otley.
1 Darwin, Francis, F.R.S., Wychfield, Huntingdon Road, Cambridge.
1 Datton, Mrs, Portman, 120, Warwick Street, Eccleston Square, S.W.; and Fillingham Castle, Lincoln.
4 Daunt, W. H., 61, Lexham Gardens, W.
2 Davey, Sir Horace, Q.C., 10, Queen's Gate Gardens, S.W.
1 Davis, B R., Yeovil Nurseries, Hendfield Hill, Yeovil.
2 Davis, Edward, 54, Sutherland Gardens, W.
2 Davis, Mrs., 15, Sutton Court Road, Chiswick.
2 Davis, Norman, Lilford Road, Cold Harbour Lane, Camberwell, S.E.
1 Davis, Philip H., 171, Queen Victoria Street, E.C.
4 Davis, Sir J. F., Bart., K.C.B., F.R.S., Hollywood, Westbury, Bristol.
4 Davy, Charles Leigh, Carter's Hotel, 14, Albermarle Street, W.
4 Davy, George Baynton, Colston Basset, Nottingham.
2 Dawnay, Hon. Payan, Benningborough Hall, York.
2 Dawnay, The Hon. Lydia, Benningborough Hall, York.
1 Dawson, Robert Moses, Chatsworth, Duke's Avenue, Chiswick.
1 Day, Mrs., 4, Charles Road, St. Leonards-on-Sea.
1 Day, William, Sandygate, Sheffield.
1 Deacon, J. F. W., 20, Birchin Lane, E.C.
4 Deacon, Miss J. B., 12, Leonard's Place, Kensington, W.
2 Deacon, W. S., 20, Birchin Lane, E.C.
2 Deakin, Charles, St. John's Lodge, The Chase, Southgate, N
2 Deal, George, Wroxton Grange, Mount Park Road, Ealing, W
1 Dean, A., Bedfont, Feltham.
1 Dean, Richard, 42, Ranelagh Road, Ealing, W.
1 Dean, S. H., The Green, Wingham, Kent.

1 Deane, Mrs., Ripley Court, Ripley, Surrey.
1 Deards, Sam, Harlow, Essex.
2 Dearn, Rev. Albert, St. George's Retreat, Burgess Hill, Sussex.
2 Debenham, Miss R., St. Peter's, St. Albans.
4 De Briailles, Mons. Gaston Chandon, Epernay, Department du Marne, France.
2 Dees, James Gibson, Floravilla, Whitehaven.
2 Dees, Robert R., Wallsend Hall, Newcastle-on-Tyne.
1 Deighton, W. J., Coleman House, 449, High Road, Chiswick.
2 De Graaff, Herr, S. A., Leiden, Holland.
2 De Keyser, Sir Polydore, Mansion House, E.C.
2 De Leon, Miss A., 26, Redcliffe Gardens, S.W.
2 De Leon, Miss Felicia, 26, Redcliffe Gardens, S. W.
2 De Luca, G. V., Kingswood, Shortlands, Kent.
2 Denbigh, The Earl of, 2, Cromwell Houses, S.W.; and Newnham Paddox, Lutterworth.
1 Denning, William, Heathfield Nursery, Hampton, Middlesex.
2 Denton, Mrs. Bailey, Woodfield, Stevenage.
2 Dent, William S., Streatham Hill, S.W.
1 Deverill, Henry, Banbury.
4 Devonshire, The Duke of, K.G., D.C.L., F.R.S., Devonshire House, Piccadilly, W.; and Chatsworth, Derbyshire.
4 De Walden, The Dowager Lady Howard, Mote Park, Maidstone.
2 De Ybarrondo, Domingo, Ullet Road, Liverpool.
1 Diamond, J. T., Dollar House Gardens, Kilmarnock.
1 Dibben, H. F., M.A., The Cottage, Hanwell, W.
2 Dickens, Lieut.-General C. H., R.A., 75, Lexham Gardens, W.
2 Dickson, Mrs., 75, St. George's Square, S.W.
2 Dickson, T. A., Centre Avenue, Covent Garden, W.C.; and Acre Lane, Brixton, S.W.
4 Dickson, William Alfred, Newton Nurseries, Chester.
4 Dilke, Sir Charles W., Bart., 76, Sloane Street, S.W.
1 Dillon, Rev. Francis, Enstone Vicarage, Oxon.
2 Dinham, Charles, Louvain, South Hampstead, N.W.
2 Dismorr, J. Stewart, Stewart House, Gravesend.
1 Divers, W. H. The Gardens, Ketton Hall, Stamford.
2 Dixon, Abraham, Cherkley Court, Leatherhead.
1 Dixon, Arthur G., Grove House, Ealing, W.
1 Dix, Wm. Thos., Church Villa, Weybridge.
2 Dod, The Rev. C. Wolley, Edge Hall, Malpas, Cheshire.
1 D'Ombrain, Rev. H. Honywood, Westwell Vicarage, Ashford, Kent.
1 Dominy, John, 12, Tadema Road, Chelsea, S.W.
2 Domville, William H., 15, Gloucester Crescent, W.
2 Domville, Mrs. Henry, 15, Gloucester Crescent, W.
2 Dorington, Lady, 30, Queen Anne's Gate, S.W.
2 Douglas, James, The Gardens, Great Gearies, Ilford.
4 Douglas, Miss S. S., 63, Ennismore Place, S.W.
4 Douglas, The Hon. Edward Wm., Heather Lea, Christchurch.
4 Douglas, The Hon. Mrs. Edward Wm., Heather Lea, Christchurch.

2 Dowley, E. C., Queensberry Lodge, South Hayling, Hants.
2 Dowling, Mrs., 14, Holland Villas Road, Kensington, W.
1 Dowling, Mrs. C. E., Ferndale, Sutton Court Road, Chiswick.
1 Dowson, Miss, Stanmore House, Weybridge.
2 Draffen, Colonel W, P., 64, Lowndes Square, S.W.
1 Dranfield, Thomas Francis, Valentines, Ilford.
1 Draper, Charles J. P., Hazel-Glen, Churnwood, Victoria, Australia.
4 Druce, Alexander, Dulwich Common, S.E.
1 Druery, Charles T., Fernholme, 25, Windsor Road, Forest Gate.
4 Drummond, Allan H., 7, Ennismore Gardens, S.W.
2 Drummond, Captain Alfred Manners, 54, Fitzjohn's Avenue, Hampstead, S.W.
2 Drummond, Captain Cecil, 48, Prince's Gardens, S.W.
4 Drummond, George, 14, Belgrave Square, S.W.
4 Drummond, Hon. F., 58, St. George's Square, S.W.
4 Drummond, Mrs. John, 10, Cornwall Gardens, S.W.
1 Du Buisson, Miss, Wandsworth Common, S.W.
4 Ducie, The Earl of, F.R.S., 16, Portman Square, W.; and Tortworth Court, Fairfield, R.S.O.
2 Ducie, The Countess of, 16, Portman Square, W.
1 Du Croz, Septimus, Oak Lawn, Weybridge.
2 Duke, John C., The Glen, Lewisham, S.E.
4 Dummett, Mrs. Jeremiah, 54, Porchester Terrace, W.
2 Duncan, W. A., Glendorgal, Redhill.
2 Duncanson, E., Bickley, Kent.
4 Duncombe, G. T., 25, Queen's Gate, S.W.
4 Dundas, Mrs. Frederick,
1 Dunn, Malcolm, Dalkeith Park Gardens, Dalkeith, N.B.
4 Dunn, Thomas, 1, Prince's Gardens, S.W.
4 Dutton, Frederick H., Buckingham Palace Hotel, S.W.
1 Dyer, W. T. Thiselton, C.M.G., F.R.S., Royal Gardens, Kew.

1 Earle, Mrs. Maria Theresa, Woodlands, Cobham, Surrey.
2 Easten, Arthur H., Dunedin, Patrington, East Yorks.
2 Eastlake, Lady, 7, Fitzroy Square, W.
4 Eastty, Alfred, Glencourt, Addiscombe Road, Croydon.
2 Easton, Dr. J., 19, Norfolk Crescent, W.
4 Easton, Edward, 23, Duke Street, Westminster, S.W.
2 Easton, Miss H. Mary, 12, Oxford and Cambridge Mansions, N.W.
2 Ebbs, Sydney, The Limes, Park Hill Road, Croydon.
4 Ebury, Lord, Moor Park, Rickmansworth, Herts.
2 Edgar, J. S., Botanic Garden, Rockhampton, Queensland.
1 Edlmann, Frederic J., Hawkwood, Chislehurst.
1 Edlmann, Miss, Old Cottage, Widmore, Kent.
1 Edwards, Charles, Newton House, Southlands Grove, Bickley, Kent.
2 Edwards, Edward, Holmeside, Leighton Buzzard.
1 Edwards, Hugh Owen, Camden Wood, Chislehurst.
1 Edwards, Owen, Camden Wood, Chislehurst.
4 Edwardes, Thomas Dyer, 5, Hyde Park Gate, W.

1 Egerton, Lady Louisa, St. George's Hills, Weybridge.
2 Egerton, Mrs., Solna, Roehampton, S.W.
2 Eley, T. G. H., 84, Drakefell Road, St. Catherine's Park, Hatcham, S.E.
1 Ellam, Joseph, c/o Mr. Fitch, 54, Trent Road, Brixton Hill, S.W.
2 Ellesmere, Dowager Countess of, Bridgewater House, St. James's, S.W.
4 Ellis, Edward, Manor House, Wallington.
2 Ellis, Henry, Vinaros Lodge, Wellington Road, Hounslow.
4 Ellis, Hon. L. Agar, M.P., 19, Milton Street, Grosvenor Place, S.W.
2 Ellis, Hon. Mrs. Arthur, 29, Portland Place, W.
1 Ellis, James, 15, Westbourne Terrace, Chiswick.
2 Ellis, Lady Whittaker, Buccleuch House, Richmond.
1 Ellis, William H., Clovelly, Lampton Road, Hounslow.
2 Elwes, H. J., Preston, Cirencester.
1 Elwes, H. T., Fir Bank, East Grinstead.
1 Englehеart, Rev. George H., Appleshaw, Andover.
2 Erle, T. W , 1, Cambridge Gate, N.W. ; and Millhall, Cuckfield.
2 Erskine, Mrs. Kennedy, 17, Evelyn Gardens, South Kensington, S.W.
4 Erskine, Miss, Holly Croft Lodge, Fulford Road, York.
2 Esmeade, G. F. M., 50, Park Street, W.
1 Evans, D. J., St. Martin's, Stamford.
1 Evans, George, 19, Stavordale Road, Highbury, N.
1 Evans, Nicholl, M.D., Turner's Hill, Cheshunt.
2 Evans, Richardson, 1, Camp View, Wimbledon.
4 Evelyn, Mrs., Hartley Manor, near Dartford, Kent.
1 Ewart, Miss, Coneyhurst, Ewhurst, Guildford.
2 Ewbank, Rev. H., St. John's Vicarage, Ryde, Isle of Wight.
1 Ewing, Robert, Burton Grange, Cheshunt, Herts.
2 Eyre, George, B., Welford Park, Newbury.
2 Eyre, Thomas J., 16, Hill Street, W.

4 Fairbairn, Mrs. Thomas, Brambridge House, Winchester.
1 Fairgrieve, P. W., Dunkeld House Gardens, Dunkeld, N.B.
4 Fane, W. Dashwood, Melbourne Hall, Derby.
2 Farmer, W. M., 14, Rosary Gardens, S.W.
1 Faulkner, W. B , Fairholme, Worple Road, Wimbledon.
2 Fawcett, Mrs., 7, Boltons, S.W.
1 Featherby, John Robert, The Vineries, Gillingham, near Chatham.
2 Feilden, Rev. John R , M.A., Honingham Vicarage, Norwich.
2 Feilding, The Lady Louisa, 39, Prince's Gate, S.W.
2 Feiling, C. Herrman N., Southgate House, Southgate, N.
1 Fellows, Samuel, Compton, Wolverhampton.
2 Fenwick, William,
2 Fetherstonhaugh, Mrs., Queen Anne's Mansions, S.W.
2 Fidler, C., 104 and 105, Friar Street, Reading.
2 Field, Barclay, Beechy Lees, Otford, Sevenoaks.
2 Field, John W., Southsea House, Dorking.
2 Finlinson, I. W., Iron Pear Tree, Godstone, Surrey.
2 Finzel, Conrad William, The Downs, near Bideford, North Devon.

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2 Fish, William, Churchtown Botanic Gardens, Southport, Lancashire.
1 Fisher, Albert E., Rydes Hill Lodge, Guildford.
4 Fisher, John, 7, Alexander Square, S.W.
2 Fisher, John Hadden, East India United Service Club, S.W.
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4 Fitzwilliam, The Earl, K.G., 4, Grosvenor Square, W.
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4 Fleming, Mrs. John, Wych Elm Lodge, South Dulwich, S.E.
4 Flemmich, Mrs, J. F., Alton House, Roehampton Park, S.W.
1 Flint, Miss, C. S., Sutherland House, Gunnersbury.
4 Foley, The Lady
2 Forbes, John, 8, Johnstone Street, Bath.
2 Forbes, Lady, 28, Queen's Gate Terrace, S.W.
1 Ford, Edward, Alcombe, Woodfield Avenue, Streatham, S.W.
1 Ford, J. W., Chase Park, Enfield.
1 Ford, Sidney, The Laurels, Cowford, Horsham.
1 Fordham, Henry E., Twickenham.
2 Fortescue, Dowager Countess, 68, Lower Brook Street, W.
4 Fortey, Thomas W. J., Abbey Villa, Ludlow, Salop.
2 Forwalk, James H., Ellen Villa, Elms, Ramsgate.
1 Foster, Charles, Grafton House Gardens, Lincoln.
2 Foster, Mrs. Richard, Homewood, Chislehurst.
2 Foster, Professor Michael, F.R.S., Shelford, Cambridge.
4 Foster, W. O., Apley Park, Bridgnorth.
2 Foster, W. R., The Grove, Horley, Surrey.
2 Fowler, Mrs. Alfred, 11, Queen's Gate, S.W.
1 Frankland, Dr. E., F.R.S., The Yews, Reigate Hill, Surrey.
2 Franklen, Thomas Mansel, St. Hilary, Cowbridge, Glamorganshire.
1 Fraser, John, 6, Thetis Teraace, Kew Green.
2 Fraser, John, Lea Bridge Road, Leyton.
1 Fraser-Luckie, D., Spencer Park, Wandsworth Common, S.W.
2 Freake, Lady, Cromwell House, S.W.
4 Freake, Sir T. G., Bart., 87, Onslow Gardens, S.W.
4 Freeman, Joseph, 15, Radnor Place, Gloucester Square, S.W.
1 Freeman, Thomas, 52, Weitje Road, Ravenscourt Park, W.
2 Fremlin, Richard H., Wateringbury, Maidstone.
2 Fromow, Joseph, The Nursery, Chiswick.
2 Fryer, W. R., Lytchett Minster, Poole.
4 Fullerton, David, Pennington House, Lymington, Hants.
2 Fullerton, Mrs. David, Pennington House, Lymington, Hants.
1 Furley, George, Barton Fields, Canterbury.
2 Furze, Walter, Roselands, Broom Road, Teddington, Middlesex.

2 Gabriel, J. T., 6, Palace Road, Streatham Hill, S.W.
4 Galton, Captain Sir Douglas, K.C.B., F.R.S., 12, Chester Street, S.W.
4 Galton, Francis, F.R.S., 42, Rutland Gate, S.W.
2 Gamble, James Sykes, M.A., Northern Circle, Madras.

1 Gapp, John Bridgeman, Danesfield, Walton-on-Thames.
2 Gardiner, James R., Athenæum Club, Pall Mall, S.W.
2 Gardiner, Mrs., Heathfield, Weybridge.
1 Gardiner, Rev. Geo. E., The Vicarage, Box, Wilts.
4 Garland, E. W., 15, Queen's Gate, S.W. ; and Walcot, Torquay.
4 Garnier, Hon. Mrs. C., Rookesbury Park, Fareham, Hants.
1 Garside, George, Junr., Leighton Buzzard.
1 Garth, Mrs., 30, Heathfield Gardens, Chiswick.
4 Gassiot, J. P., Jun., The Culvers, Carshalton, Surrey.
2 Gassiot, Sebastian, 2, Queen's Gate, S.W.
1 Gaymer, William, Heath Road, Banham, Attleborough, Norfolk.
1 Geale, John Henry, The Lawns, Burgess Hill.
1 George, James, Horticultural Depôt, 10, Victoria Road, Putney, S.W.
2 German, Major J., Maywood, Sevenoaks.
1 Gibbs, Rev. Kenneth F., Aldenham Vicarage, Watford.
4 Gibbs, Antony, 16, Hyde Park Gardens, W.
4 Gibbs, Henry H., St. Dunstan's, Regent's Park, N.W.
1 Gibbs, Miss, The Hollies, Weybridge.
4 Gillett, William, 6, William Street, Lowndes Square, S.W.
2 Girdlestone, T. W., Sunningdale, Berks.
2 Gledstanes, Francis G., Manor House, Gunnersbury.
1 Gleeson, M., Clumber Gardens, Worksop.
2 Glendinning, R. P., Royal Winter Garden, West Coates, Edinburgh.
2 Glentworth, Viscountess, Marham House, Downham Market.
2 Goddard, Ambrose L., The Lawn, Swindon.
1 Godfray, Charles, Beau Sejour, Jersey.
2 Goding, C., 13, St. George's Place, S.W.
4 Godman, Frederick Du Cane, F.R.S., 10, Chandos Street, Cavendish Square, W.
2 Godson, A. F., 3, Pump Court, Temple, E.C.
2 Going, Mrs., 34, Albert Hall Mansions, S.W.
1 Goldring, W., 52, Gloucester Road, Kew.
4 Goldsworthy, Mrs., 22, Hertford Street, Mayfair, W.
1 Good, F. T., St. Neots, Hunts.
1 Goodacre, John Herbert, The Gardens, Elvaston Castle, Derby.
4 Goodlake, Mrs. Gerald, 36, Chester Square, S.W.
1 Goody, Isaiah, Belchamp St. Paul, Clare, Suffolk.
2 Gordon, Charles Shipley, 8, Lansdowne Road, Wimbledon.
2 Gordon, Hamilton, 107, Queen Victoria Street, E.C. ; and 8, Lansdowne Road, Wimbledon
2 Gordon, John, Miramar, Exmouth.
1 Gorton, Alfred, The London Nursery, Maida Vale, W.
2 Gosset, J. J., Church Cottage, Thames Ditton, Kingston-on-Thames.
2 Gower, G. Granville Leveson, 14, South Audley Street, W.
4 Gower, Hon. F. Leveson, M.P., 14, South Audley Street, W.
4 Gower, Robert F., Castle Malgwyn, Boncath, R.S.O., S. Wales.
4 Graham, James, 39, Ennismore Gardens, S.W.
2 Graham, Mrs.,
2 Graham, Mrs., 49, Elm Park Gardens, S.W.

2 Grahame, Charles J., Coombe Road, Croydon.
2 Grange, Thomas, Linden House, Chiswick.
2 Grant, Miss Mary, Canwell House, Chelsea Embankment, S.W.
1 Grant, Mrs. Robert, 14, Granville Place, Portman Square, W.
4 Granville, The Earl, K.G., F.R.S., 16, Bruton Street, W.
2 Graves, John P. C., Cove Cottage, 140, Upper Tulse Hill, S.W.
2 Gray, Alfred, 18 and 20, Danvers Street, Chelsea, S.W.
2 Gray, Lieut.-Colonel W., M.P., Farley Hall, Reading; and Darcy Lever Hall, Bolton.
2 Gray, Rev. Thomas Sill, D.D., Garsdon Rectory, Malmesbury.
1 Green, John, Norfolk Nurseries, East Dereham, Norfolk.
1 Green, Joseph Reynolds, M.A., 17, Bloomsbury Square, W.C.
1 Green, Miss, Oakwood, Weybridge.
2 Green, Walter James, Upton House, near Sandwich.
1 Green, Wm. A., Corporation Street, Wolverhampton.
2 Greenfield, H. B., 35, Gloucester Square, W., and Haynes Park, Bedford.
2 Grimshaw, J. S., 45, Avenue Road, Regent's Park, N.W.
2 Grindrod, H. A., St. Stephens, Tunbridge.
1 Grinling, Mrs., Harrow Weald House, Stanmore.
2 Grosvenor, Lady Henry, Cliveden, Maidenhead.
1 Grove, Mrs., Thamescote, The Mall, Chiswick.
2 Guedalla, Henry, Gresham Club, E.C.
2 Gumbleton, W. E., Belgrove, Queenstown, Ireland.
4 Gunter, Mrs. J., 2, Tregunter Road, West Brompton, S.W.
2 Gurdon-Rebow, Hector John, Wyvenhoe Park, Colchester.
4 Guthrie, James, 6, Broadwater Down, Tunbridge Wells.
2 Gwinner, Herman, Maitland House, 30, Church Street, Kensington, W.
1 Gwynne, J. Eglinton Anderson, J.P., F.R.G.S., &c., 97, Harley Street, W., and Folkington Manor, Polegate, R.S.O., Sussex.
1 Gwynne, John, Kenton Grange, The Hyde, N.W.

2 Haden, Mrs., 66, Harley Street, W.
4 Hadwen, Gaylard, at D. R. C. Barrow, Esq., Lawn House, Ampton Road, Birmingham.
2 Hagen, S. W., Hill House, Bramerton, Norwich.
2 Haig, Alexander Price, Blairhill, Stirling.
2 Haig, David Price, Blairhill, Stirling.
1 Haig, John A., The Lawns, Burgess Hill.
2 Haig, James R., Blairhill, Stirling.
1 Haines, Cecil E., Sandfield, Reigate.
1 Haines, Mrs., Sandfield, Reigate.
1 Hall, Thomas, 5, Aspley Terrace, Chiswick.
4 Hall-Dare, F. M., Carlton Club, S.W.
2 Hallewell, Joseph Watts, Stratford House, Stroud.
1 Halse, George, 15, Clarendon Road, Notting Hill, W.
1 Halse, John, 415, Chiswick High Road, Chiswick.
4 Hambro, Everard Alexander, Hayes Place, Hayes, Kent.
1 Hamilton, Hugh Montgomerie, 2, Harcourt Buildings, The Temple, E.C.
4 Hammersley, Miss C., 65, Lowndes Square, S.W.

1 HAMMOND, GEORGE, Wilton Lodge, Gunnersbury.
1 HAMOND, THOMAS ASTLEY HORACE, 62, Lincoln's Inn Fields, W.C.
2 HANBURY, EDMUND S., 20, Prince's Gardens, S.W.
1 HAND, Mrs. F. J., Finwell Lodge, St. Peter's Square, Hammersmith, W.
2 HANDLEY, Rev. EDWARD, 19, Royal Crescent, Bath.
1 HANKEY, W. BARNARD, Oaklands, Cranleigh, Guildford.
2 HANKINSON, THOS. JAMES, Eastbury, Bournemouth.
4 HANNAH, Mrs. R., 82, Addison Road, W.
1 HANSEN, GEORGE, College of Agriculture, Jackson, California.
1 HARDCASTLE, J. A., 54, Queen's Gate Terrace, S.W.; and Nether Hall, Bury St. Edmunds.
1 HARDCASTLE, Miss ALICE, Marlesford, Beddington, Croydon.
2 HARDCASTLE, Miss, 4, Foulis Terrace, Onslow Gardens, S.W.
2 HARDY, BENJAMIN, Gordon House, Chiswick.
2 HARDY, GEORGE, Timperley, Cheshire.
2 HARDY, Miss CHARLOTTE, 24, Portland Place, W.
2 HARFIELD, Lieut.-Col. WM. HORATIO, Sunbury Court, Sunbury-on-Thames.
4 HARFORD, CHARLES R., Pension Internationale, Wiesbaden, Germany.
1 HARKNESS, J., The Grange, Leeming Bar, Bedale.
4 HARMAN, T. RICKMAN, Sindlesham House, Wokingham.
1 HARRIS, C. ALEXANDER, Colonial Office, Downing Street, S.W.
1 HARRIS, JOHN, Braemar, Ealing Common, W.
2 HARRIS, Sir GEORGE DAVID, 75, Inverness Terrace, Bayswater, W.
2 HARRIS, JOSEPH, Marina, Mornington, Victoria, Australia.
1 HARRISON, JOHN, Market Place, Leicester.
2 HARROWBY, Earl of, Sandon Hall, Stone.
1 HARTLAND, WILLIAM BAYLOR, Temple Hill, near Cork, Ireland.
1 HARTLEY, HAROLD, 163, New Park Road, Brixton Hill, S.W.
1 HARVEY, ALFRED SPALDING, Hurstbourne, Highgate.
2 HARVEY, ENOCH, Aigburth, Liverpool.
2 HATCHARD, Mrs. FLORENCE M. A., Stapleton Park, Pontefract.
1 HATTON, Mrs. R. LEIGH, 9, Upper Hamilton Terrace, N.W.
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2 HAWKINS, Lady, 5, Tilney Street, Park Lane, W.
4 HAWKINS, Rev. R. McLEOD, Tattingstone Rectory, Ipswich.
2 HAYCOCK, CHARLES, The Gardens, Goldings, Hertford.
1 HAYDON, Rev. G. P., Hatfield Vicarage, Doncaster.
2 HAYES, JOHN, Lower Edmonton.
2 HAYMAN, F,, Langley House, Beckenham.
2 HAYWOOD, THOMAS B., Woodhatch Lodge, Reigate.
1 HAYWOOD, Mrs., Woodhatch, Reigate.
1 HAZELDINE, Mrs., Ventnor Villa, Turnham Green.
1 HAZELL, W. G., Mill Road, Heene, Worthing.
2 HEADFORT, Marchioness of, Kells, co. Meath, Ireland.
2 HEALD, J., 2, Sillwood Terrace, Brighton.
1 HEATH, Baroness, Coombe House, near Croydon.
4 HEATH, D. D., Kitlands, Holmwood, Dorking.
4 HEATH, ROBERT, M.P., Biddulph Grange, Congleton.

2 Heathcote, Dowager Lady, Southend, Hursley, Winchester.
2 Heathorn, Captain Thomas Bridges, R.A., 10, Wilton Place, S.W.
4 Heatley, Grant H. Tod., 4, Pall Mall East, S.W.
1 Hedges, Miss Ellen M., Weir House, Sunbury.
1 Hedges, Miss Emily, Weir House, Sunbury.
2 Helder, Augustus, Corkickle, Whitehaven.
2 Hemery, Colonel E., East India United Service Club, S.W.
4 Heming, Dempster, 132, Loughboro' Road, Brixton, S.W.; and Caldecott Hall, Hinckley.
1 Hemmerde, A. J., 10, Eliot Place, Blackheath, S.E.
1 Henderson, John, Wear Clifford Hall, Bideford, North Devon.
4 Henderson, Mrs. G., 24, Hyde Park Square, W.
2 Henry, Lieut.-Col. Robert Edward, 35, Stanhope Gardens, S.W.
2 Henry, Mitchell, Stratheden House, Knightsbridge, S.W.
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4 Hepburn, John G., Dartford, Kent.
2 Hepburn, Rev. Francis R., Chailey, Lewes.
4 Hepburn, Sir Thomas B., Bart., Smeaton-Hepburn, Prestonkirk, N.B.
2 Herbert (of Lea), The Lady, Wilton House, Salisbury.
2 Herbst, H., Stanmore, Kew Road, Richmond, Surrey.
2 Herford, C. Lindsay, Westbank, near Macclesfield.
1 Herring, W. A., Burley Orchard, Chertsey.
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4 Higginbotham, Mrs. Edwin, 17, Westbourne Terrace, Glasgow.
4 Higgs, Thomas, The Regent Hotel, Leamington Spa, Warwick.
2 Hill, Charles, F.S.A., Rockhurst, West Hoathley, East Grinstead.
1 Hill, Edwin, Tring Park Gardens, Tring, Herts.
1 Hill, J., 22, Arlington Park Gardens North, Gunnersbury.
2 Hill, N. G., Selwyn College, Cambridge.
1 Hingston, John, 4, Honor Oak Park, S.E.
1 Hodge, Henry, St. Austell, Cornwall.
1 Hodge, W. G., 17, Union Street, Plymouth.
1 Hodges, O. T., Lachine, Chislehurst.
2 Hodgson, J. Steuart, 8, Bishopsgate Street Within, E.C.
2 Hodgson, Mrs. Steuart, 1, South Audley Street, W.
2 Hodgson, Matthew, Shirley Cottage, Shirley, Croydon.
2 Hodgson, T. T., 52, Cornwall Gardens, S.W.
2 Hogg, Adam, Serpentine Lodge, Buxton.
2 Hogg, Robert, LL.D., F.L.S., 99, St. George's Road, S.W.
1 Holden, Charles, Park Road, Ealing, W.
2 Holford, Mrs. R. S., Dorchester House, Park Lane, W.; and Westonbirt, Tetbury.
4 Holford, R. S., Dorchester House, Park Lane, W.; and Westonbirt, Tetbury.
1 Holland, Mrs. James, 27, Park Crescent, Regent's Park, N.W.
2 Holland, Mrs. William, 109, Harley Street, W.

2 Hollington, A. J., Forty Hill, Enfield.
1 Hollingworth, J., The Gardens, Woodseat, Uttoxeter.
4 Hollins, Michæl Daintree, Stoke-on-Trent.
4 Hollond, R., Stanmore Hall, Middlesex.
2 Hollond, Mrs., 33, Hyde Park Gardens, W.
1 Holmes, Hon. Mrs. Egerton, 7, St. George's Square, S.W.
1 Holmes, William, Frampton Park Nurseries, Hackney, E.
1 Holtze, Maurice, Port Darwin, South Australia.
1 Homfray, Mrs., Belgrave Mansions, Grosvenor Gardens, S.W.
4 Hood, Sir Alex. Acland, Bart., St. Audries, Bridgewater.
1 Hooper, Cecil Henry, Horticultural and Technical College, Swanley
1 Hooper, George N., Elmleigh, Hayne Road, Beckenham.
1 Hooper, Mrs. G. N., Elmleigh, Beckenham.
1 Hope, Mrs. Charles Beresford, 6, Gledhow Gardens, S.W.
2 Hopkins, John, Bickley, Kent.
2 Hore, Charles F., Hilden, Beckenham, Kent.
4 Hornby, Mrs. W., 11, Hyde Park Terrace, Cumberland Gate, W.
2 Horne, Edward, Park House, Reigate.
2 Horrocks, Major, Mascalls, Brenchley, Kent.
1 Horsman, Frederick J. S., Hollybrook, Colchester.
2 Houghton, William, Hoe Street, Walthamstow.
1 Houlgrave, Robert, Castle Bank, Conway.
4 Howard, Dowager Lady (of Glossop), 19, Cadogan Square, S.W.
1 Howcroft, A., Hart Street, Covent Garden, W.C.
1 Howell, Ernest J., 53, Linden Gardens, Chiswick.
2 Howes, J. G., 48, Porchester Terrace, W.
2 Hubbard, Miss Alice Eliza, 24, Prince's Gate, S.W.
1 Hudson, James, The Gardens, Gunnersbury House, Acton, W.
2 Hudson, J. Godfrey,
1 Hudson, Mrs., Brae Side, Buckhurst Hill, Essex.
1 Hudson, W. H., West Green Road, Tottenham.
2 Hughes, R. H., M.A., 12, Lockyer Street Plymouth.
2 Hulse, Miss M., 56, Eaton Square, S.W.; and Barkham, Wokingham.
1 Humble-Ralfe, Thomas, 40, Cornwall Road, Bayswater, W.
2 Hume, Colonel H., C.B., 29, Norfolk Square, W.; and Halstead.
1 Humphrey, Mrs., 17, Rutland Gate, S.W.
4 Hunt, Lady Henry A., Belgrave Mansions, Grosvenor Square, S.W.
1 Hunter, James, Foregate, Chester.
2 Huntingfield, Lady, 11, Charles Street, Berkeley Square, W.
1 Hutchinson, Mrs., St. Mary's Lodge, Long Ditton.
1 Hutchinson, W. H., St. Mary's Lodge, Long Ditton.
1 Hutton, Arthur, W., Warden Lodge, 52, Oxford Road, Gunnersbury, W.
1 Hutton, Miss M., 9, Girdler's Road, Brook Green, W.
1 Hutton, Miss, Putney Park, S.W.
2 Hyam, David, 35, Tavistock Square, W.C.
2 Hyde, Edmund, Hillcrest, Castle-Bar, Ealing, W.
1 Hyslop, Lieut.-Col. A. H., 55, Linden Gardens, Chiswick.

2 I'Anson, Dr., Whitehaven.
1 Iceton, William, Grenard Gardens, Putney, S.W.
1 Iggulden, William, The Gardens, Marston, Frome.
1 Ince, Surgeon-Major, John, M.D., Montague House, Swanley, Kent.
1 Ingram, A. Wells, Amberley, Reigate.
2 Ingram, C. J., 86, Onslow Gardens, S.W.
1 Ingram, William, The Gardens, Belvoir Castle, Grantham.
4 Irving, John, 94, Eaton Place, S.W.
4 Isaac, Saul, 9, Hyde Park Mansions, N.W.
4 Isaacs, Mrs. Samuel, 29, Warrington Crescent, Maida Vale, W.

1 Jackson, G. E., c/o Baron Sir F. Von Mueller, K.C.M.G., Melbourne.
1 Jackson, J. Kennerley, Rothesay, Barrowgate Road, Chiswick.
2 Jackson, John Flower, Bourne Place, Bexley, Kent.
4 Jacob, W. H., 59, Portsdown Gardens, Maida Hill, W.
1 Jacobs, Simeon, 42, Catherine Street, Strand, W.C.
2 Jacomb, Frederick C., 61, Moorgate Street, E.C.
4 James, H. Berkeley, F.L.S., The Oaks, near Carshalton.
2 James, Henry, Castle Nursery, Lower Norwood, S.E.
1 James, J., Woodside, Farnham Royal, Slough.
2 James, Samuel, Woodlands, Woodbury Down, N.
1 Jameson, R. Falconer, Hessle, near Hull.
4 Jaques, Leonard, Horsenden House, Princes Risborough.
4 Jardine, Sir Robert, M.P., 3, Lombard Street, E.C.; and Castlemilk, Lockerby, Scotland.
2 Jarvis, George Eden, Doddington Hall, Lincoln.
1 Jarvis, Miss M., Woodcote, Walton-on-Thames.
1 Jarvis, Mrs., Woodcote, Walton-on-Thames.
1 Jeakes, Rev. J., The Rectory, Hornsey, N.
1 Jeffries, Charles, Boston House Gardens, Brentford.
2 Jefferies, W. J., Cirencester.
1 Jekyll, Miss Gertrude, Munstead, Godalming.
4 Jenkins, Mrs. Alexander H., 17, Hyde Park Gardens, W.
4 Jenkinson, Sir George S., Bart, M.P., Eastwood Park, Falfield, R.S.O.
1 Jennings, John, Ascott, Leighton Buzzard.
2 Jervis, Hon. Caroline M. F., 4, Queen's Parade, Bath.
4 Jervis, Hon. E. S. Parker, Little Aston Hall, Sutton Coldfield, Birmingham.
2 Johnson, Cuthbert, N. H., St. James' House, Daventry.
1 Johnson, Miss, South Bank, Wimbledon.
2 Johnson, Mrs. T. Marr, 3, Sussex Square, Hyde Park, W.
2 Johnston, Charles Edward, 23, Queen's Gate Terrace, S.W.
2 Johnston, David, St. Kilda, near Melbourne.
4 Jones, Geo. Andrew, Greenford Place, Sudbury, Harrow.
1 Jones, Sumner, 22, Brandenburgh Road, Gunnersbury, W.
2 Jones, Thomas, Royal Gardens, Frogmore.
1 Joynson, Edmund H., Ravenshill, Chislehurst.
1 Joynson, Mrs. E, Ravenshill, Chislehurst.
2 Jull, George Montague, 63, Inverness Terrace, W.

2 Jupp, Geo. H., White Lodge, Gunnersbury, W.
2 Jupp, Mrs. G. H., White Lodge, Gunnersbury, W.
1 Justen, F. W., F.L.S., 37, Soho Square, W.

1 Kaye, William, The Court, Worcester Park, Surrey.
2 Keane, Mrs., 12, Great Queen Street, Westminster, S.W.
2 Keeling, H. H., Merlewood, Eltham, Kent.
4 Keeling, Miss, 3, Essex Villas, Kensington, W.
2 Keiller, William, Fernwood, Wimbledon Park.
2 Kelk, Sir John William, Bart., 3, Grosvenor Square, W.
1 Keller, Mrs., Rookwood, Chiswick Lane.
2 Kellock, W. B., F.L.S., Stamford Hill, N.
1 Kelway, Wm., Brooklands, Langport.
4 Kemble, Horatio, 103, Cromwell Road, S.W.
1 Kempe, Mrs., 23, Gilbert Street, Brook Street, W.
2 Kemp-Welch, Mrs., The House, Campden Hill, W.
*Kent, A. H., F.L.S., Royal Exotic Nursery, Chelsea, S.W.
2 Ker, R. Wilson, Basnet Street, Liverpool.
1 Kershaw, Henry, 91, Wellfield Road, Streatham, S.W.
2 Kershaw, H. J., Woodside Green, South Norwood, S.E.
1 Kersten, J. H., Haarlem, Holland.
1 Keys, Thomas R. M., 28, High Street, Hampstead, N.W.
2 Kibble, Thomas, Green Trees Park, Tunbridge.
1 King, H. S., Wharncliffe House, Bexley.
1 King, J. Willis, 8, Artillery Row, Victoria Street, S.W.
1 King, James, The Gardens, Purley Park, Reading.
1 Kingsmill, Andrew, 41, Lombard Street, E.C.
4 Kinnear, Thomas John, Terrington Hall, York.
2 Kinnell, C. P., 65a, Southwark Street, S.E.
4 Knight, Andrew B., Downton Castle, Ludlow.
2 Knight, Geo. William, Sandhurst, Victoria, Australia.
1 Knight, John, The Oaks Gardens, near Carshalton, Surrey.
2 Knightley, Lady, Fawsley Park, near Daventry.
2 Knighton, Frederick, Tugvor House, Kew Gardens.
4 Knill, Alderman S., The Crosslets-in-the-Grove, Blackheath, S.E.
2 Knowles, T. Foster, 48, Moorgate Street, E.C.
2 Kruse, Henry, Dean Farm, East Fairleigh, Kent.
2 Kruse, Walter, Yew Tree Manor, Leeds, Maidstone.

2 Labouchere, Hon. Emily, 101, Eaton Place, S.W.
1 Laing, John, Stanstead Park, Forest Hill, S.E.
2 Laing, Charles C., 16, Kensington Gore, S.W.
1 Lake, James, Sheriff's Court, Minster, Ramsgate.
4 Lampson, Mrs. Norman, Farm House, 67, Pont Street, S.W.
2 Lancaster, Arthur H., 5, Campden Hill Gardens, Kensington, W.
2 Lance, Miss Louisa, Redville, Victoria Road, Southsea.
2 Lane, Frederick Quincey, The Nursery, Berkhamsted.
2 Lane, Henry A., Mileham, Leigham Court Road, Streatham Hill, S.W.
1 Langley, Rev. William, Narborough Rectory, Leicester.

2 Langton, Mrs. James, Hillfield, Reigate.
2 Lanyon, J. C., Birdhurst, Croydon.
2 Larkin, John, Perriville, Highbury New Park, N.
2 Larnach, Donald, 21, Kensington Palace Gardens, W.
1 Latham, W. B., Curator, Botanic Gardens, Birmingham.
2 Lathom, Earl of, 41, Portland Place, W.
1 Lavers-Smith, C. L., Oakfield, Walton-on-Thames.
2 Lawrence, Lady, 57, Prince's Gate, S.W.
1 Lawrence, Miss Louisa E., 18, Whitehall Place, S.W.
1 Lawrence, Miss Mary W., 18, Whitehall Place, S.W.
2 Lawrence, Sir Trevor, Bart., M.P., 57, Prince's Gate, S.W.
1 Laxton, Thomas, Bedford.
2 Lay, J. W., Walcott's Great Tey, Kelvedon, Essex.
1 Leach, W. C., The Gardens, Albury Park, Guildford.
4 Leaf, Charles J., 6, Sussex Place, Regent's Park, N.W.
2 Lee, George, Clevedon.
4 Lee, John, 78, Warwick Gardens, W.
1 Lee, William,
2 Lee, William, Royal Vineyard Nursery, Hammersmith, W.
2 Lee, Mrs. S. A., 4, Arlington Park Villas, Gunnersbury, W.
2 Lefevre, Lady Constance Shaw, 18, Bryanston Square, W.
4 Legh, William John, 20, Belgrave Square, S.W.; and Lyme Park, Disley, Cheshire.
4 Leicester, The Earl of, Holkham Hall, Norfolk.
1 Leigh, Edward Egerton, Broadwell Manor House, Stow-on-the-Wold, Gloucestershire.
2 Lemon, R. B., Longshaw, Chipstead, Surrey.
2 Leon, Auguste, 21, Tregunter Road, Boltons, S.W.
2 Leonard, Henry Selfe, Hisherbury, Guildford.
4 Lermitte, James H., Knightons, Finchley, N.
2 Levien, Hon. J. F., Barkly Street, St. Kilda, near Melbourne.
2 Lewis, Arthur J., Moray Lodge, Campden Hill, W.
2 Lewis, George M., Gt. Western Hotel, Paddington, W.
2 Lewis, Mrs., Ongar Hill, Addlestone, Chertsey.
4 Lichfield, The Earl of, Shugborough Hall, Stafford.
2 Lidstone, Thomas, Devonia, Sherriff Road, West Hampstead, N.W.
2 Lile, John H., Devon House, Brixton Hill, S.W.
2 Lillywhite, G., 5, Clyde Street, South Kensington, S.W.
1 Lindsay, Robert, Royal Botanic Garden, Edinburgh.
4 Lindsay, Sir Coutts, Bart.
1 Lindsay, W. A., M.A., 17, Cromwell Road, S.W.
2 Lipscombe, G., 41, Westbourne Terrace, W.
4 Llewelyn, Sir John Talbot Dillwyn, Bart., Penllergare, Swansea.
2 Llewellyn, W., Court Colman, Bridgend, Glamorgan.
1 Lindsell, E. B., Beamon, Hitchin.
1 Lindup, Walter G., Keswick, Mount Ephraim Road, Streatham, S.W.
4 Littledale, Mrs., 26, Cranley Gardens, S.W.
2 Livesey, James E. E., C.E., 6, Upper Phillimore Gardens, W.; and Rotherfield, Sussex.

4 Lloyd, Edward, 17, Delahay Street, S.W.
2 Locke-King, H. F., Brooklands, Weybridge.
2 Loder, Sir Edmund Giles, Bart., Leonardslee, Horsham.
2 Loder, Wilfred Hans, 62, Threadneedle Street, E.C.
2 Loe, Daniel Prince, The Hill, Bromley, Kent.
2 Londesborough, Earl of, 38, Berkeley Square, W.
4 Londonderry, Marquis of, K.G , Wynyard Park, Stockton-on-Tees.
1 Long, Cecil, Sherrington Manor, Selmeston, Polegate, Sussex.
1 Lonsdale, Miss, 31, Oakley Street, Chelsea, S.W.
4 Lovelace, Earl of, F.R.S., East Horsley Towers, Leatherhead.
1 Lovett, Mrs., Syon House, Harvard Road, Gunnersbury, W.
4 Lowe, E. J., F.R.S., Shirenewton Hall, near Chepstow, Monmouthshire.
1 Lowe, Richard Buckland, The Gardens, Ashridge, Great Berkhamsted.
2 Loyd, Lewis, 20, Hyde Park Gardens, W.
2 Loyd, Mrs. Lewis, 20, Hyde Park Gardens, W.
1 Lucas, Edmund, Berkshire Brewery, Camberwell, S.E.
4 Lucking, William J., St. Mary's, West Heath, Hampstead, N.W.
2 Lushington, Mrs. Edward, Treasurer's House, Guy's Hospital, S.E.
4 Lutwidge, C. R. F., 21, Calverly Park, Tunbridge Wells.
1 Lye, James, The Gardens, Clyffe Hall, near Market Lavington, Devizes.
1 Lynch, R. Irwin, Botanic Gardens, Cambridge.
4 Lyon, Major Wm., 1, Hill Street, Berkeley Square, W.

1 Mac Farlan, J., Invermay, Lake Road, Wimbledon.
1 Macfarlane, W. A. C., Elmswell, Suffolk.
2 Machell, Capt. J. O., Bedford House, Newmarket.
4 Mackeson, Edward, 13, Hyde Park Square, W.
2 Mackrell, John, High Trees, Clapham Common, S.W.
4 Macmillan, Alexander, Knapdale, Upper Tooting, S.W.
2 Magruder, Mrs. Ainsworth, 18, Wilbury Road, West Brighton.
2 Maitland, Miss Caroline Fuller, The Knoll, Elgin, N.B.
2 Maitland, Mrs.
4 Makins, Colonel William Thomas, M.P., 1, Lowther Gardens, Prince's Gate, S.W.
4 Makins, Henry Francis, 180, Queen's Gate, S.W.
4 Malcolm, John, 7, Great Stanhope Street, W.
2 Malcolm, John Wingfield, M.P., 7, Great Stanhope Street, W.
1 Manbey, Rev. George Henley, Keble Villa, Acton Green, W.
2 Manchester, The Duke of, K.P., 1, Great Stanhope Street, W. ; and Kimbolton Castle, Hunts.
2 Manchester, The Duchess of, 1, Great Stanhope Street, W.
2 Mangles, H. A., Littleworth, Tongham, Surrey.
4 Manners, The Lady A., 37, Cranley Gardens, S.W.
1 Mantell, John, Ringstead, Sutton Court Road, Chiswick.
4 Manvers, The Earl, 6, Tilney Street, Park Lane, W.
2 Markby, Alfred, 9, New Square, Lincoln's Inn, W.C. ; and Copse Hill, Wimbledon.
1 Marlborough, Duke of, Blenheim Palace, Woodstock.
1 Marsh, Rev. Theodore H., Cawston Rectory, Norwich.

1 MARSHALL, JAMES, Heston Mills, Hounslow.
1 MARSHALL, Mrs., Skelwith Fold, Ambleside.
2 MARSHALL, WILLIAM, Auchinraith, Bexley.
4 MARTIN, EUSTACE MEREDYTH, 17, Clanricarde Gardens, Bayswater, W.
4 MARTIN, HENRY, Sussex House, Highbury New Park, N.
1 MARTIN, W. E., Department of Agriculture, Melbourne.
2 MARTIN, WILLIAM, 17, St. John's Park, Blackheath.
4 MARTINEAU, DAVID South Road, Clapham Park, S.W
1 MARTINEAU, HUGH, 16, Highbury Terrace, N.
2 MASON, Major F., The Firs, Warwick.
1 MASSY-MAINWARING, Hon. W. F. B., 30, Grosvenor Place, S.W.
2 MASTERS, MAXWELL T., M.D., F,R.S., Mount Avenue, Ealing, W.
1 MATHER, R. VEITCH, Kelso, N.B.
4 MATHESON, HUGH M., Heathlands, Hampstead, N.W.
4 MATHESON, Lady, 13, Cleveland Row, St. James's, S.W.; and Stornoway, Island of Lewis, Scotland.
1 MATTHEW, Dr. C. MORDAUNT, Falconhurst, St. Nicholas Road, Upper Tooting, S.W.
1 MATTHEWS, JOHN, Weston-super-Mare.
2 MAWLEY, EDWARD, F. R. Met. Soc., Rosebank, Berkhamsted.
2 MAXWELL, Captain, A.P.C., Terregles, Dumfries, N.B.
2 MAXWELL, WELLWOOD H., Munches, Dalbeattie, Dumfries, N.B.
2 MAY, HENRY BENJAMIN, Dyson's Lane Nursery, Edmonton.
2 MAYHEW, JAMES W., Glen Coe, Spencer Park, Wandsworth Common, S.W.
1 MAYOR, GEORGE, Holmwood, Weybridge.
2 McCALLAN, EDWARD, Sussex Chambers, 10, Duke Street, St. James's, S.W.
2 McCANN, Mrs.
1 McCLURE, WM. LEES, The Lathams, Prescot.
2 McGAREL, Mrs., 128, Queen's Gate, S.W.
1 McINDOE, JAMES, Hutton Hall Gardens, Guisborough.
4 McINTOSH, JAMES, Duneevan, Weybridge.
1 McKIE, P. McKENZIE, Teddington.
1 McLACHLAN, ROBERT, Westview, Clarendon Road, Lewisham, S.E.
2 McMAHON, Lieut.-Gen. Sir THOMAS, 40, Queen's Gate, S.W.
1 McMEEKIN, J., Falkland Park, South Norwood Hill, S.E.
4 McMICKING, GILBERT, 55, Prince's Gate, S.W.; and Union Club, Trafalgar Square, W.C.
2 MEAD, Mrs. RICHARD G., Balcombe Rectory, Hayward's Heath.
1 MECKLENBURG, PAUL, Spring Grove, Isleworth.
2 MEIGGS, Mrs. JOHN G., Bailey's Hotel, Gloucester Road, S.W.
4 MELLES, WILLIAM, Sewardstone Lodge, Chingford, Essex.
1 MELLISH, Miss AGNES, Hodsock Priory, Worksop.
2 MELLISH, Mrs. C., 26, Eaton Place, S.W.
2 MELLISH, Miss C., 26, Eaton Place, S.W.
4 MELLOR, Mrs. JAMES R., 16, Craven Hill Gardens, W.
1 MERRYWEATHER, Dr., 13, Marlboro' Road, Gunnersbury, W.
1 MERTON, CHARLES, Richmond, near Melbourne.
4 MEYRICK, Lieut.-Gen. A., Carlton Club, Pall Mall, S.W.

4 Meyrick, Sir George, Bart., Bodorgan, Llangefni, Anglesey, North Wales.
1 Michael, Albert D., F.L.S., Cadogan Mansions, Sloane Square, S.W.
2 Midlane, Maurice, Boyton Lodge, Andover.
4 Mildmay, Henry B., 8, Bishopsgate Street Within, E.C.
1 Miles, Augustus, Nisbet House, Lonsdale Road, Barnes, S.W.
1 Miles, G. T., Wycombe Abbey, High Wycombe.
1 Miles, Rev. C. O., Sunny Hill, Shirehampton.
1 Miles, Mrs. Shirley R., 2, Arlington Park Gardens South, Chiswick.
1 Miller, Edward A., Weynholm, Weybridge Heath.
4 Miller, Lady, 1, Park Lane, W.; and Manderstone Dunse, N.B.
1 Miller, Lady, 2, Onslow Square, S.W.
1 Miller, Mrs., 60, Linden Gardens, Chiswick.
1 Milman, Rev. W. H., 15, Cornwall Gardens, S.W.
2 Milne-Redhead, R., F.L.S., Holden Clough, Clitheroe.
4 Mitchell, A. C., Lubbock Road, Chislehurst.
1 Mitchell, Charles Montagu, St. Austell, Lordship Road, Stoke Newington, N.
2 Mivart, Mrs. F., Beaumont, Worple Road, Wimbledon.
1 Molineux, Albert, Adelaide, South Australia.
1 Molyneux, Edwin, Swanmore Park, Bishop's Waltham, Hants.
2 Moncrieff, Colonel George H., 38, Thurloe Square, S.W.
1 Money, Colonel G. Noel, C.B., Vigo House, Weybridge.
4 Montgomerie, Hugh Edmonston, 17, Gracechurch Street, E.C.
2 Montgomery, Archibald Sims, Busch House, Isleworth.
1 Moore, Commy.-General Henry, Correagh, Cumberland Road, Kew.
1 Moore, Fredk., The Gardens, Blendon Hall, Bexley Heath, Kent.
2 Moore, Thomas Young, Syon Hill, Isleworth.
1 Moore, Miss,
2 Mordan, Augustus, Stone House, Reigate.
2 Moreton, The Lord, M.P., Tortworth Court, Falfield, Gloucestershire.
1 Morgan, John Brandram, Sunnyside, Grange Road, Ealing, W.
1 Morle, William B., 283, Regent Street, W.
4 Morley, John, Upper Clapton, E.
2 Morley, Mrs., Heyrod Hall, Stalybridge.
2 Morris, D., M.A., F.L.S., 11, Kew Gardens Road, Kew.
2 Morris, George Field, c/o Protheroe & Morris, 67 and 68, Cheapside, E.C.
2 Morris, Harold G., The Limes, Leytonstone, E.
2 Morris, Richard, Beechfield, Doncaster.
2 Morris, Mrs., 9, Sutton Court Road, Chiswick.
2 Morriss, Charles Wm., King's Lynn, Norfolk.
4 Morrison, Charles, 93, Harley Street, W.; and Basildon, Berks.
4 Morrison, Frank, 8, Cromwell Houses, S.W.
4 Morrison, Mrs. Alfred, 16, Carlton House Terrace, S.W.
1 Morrison, Mrs., Avonmore, Cumberland Row, Kew.
1 Morse, Rev. H. G., Littleham Rectory, Bideford, North Devon.
2 Mortimer, C. S., Wigmore, Holmwood, Surrey.
1 Morton, T. B., Mowden Nursery, Darlington.
2 Moss, Arnold, 39, London Bridge, E.C.

1 Moss, Sir T. Edwards, Bart., 1, Ennismore Gardens, S.W.
1 Mouat, Dr., 12, Durham Villas, Kensington, W.
4 Mould, John T., 1, Onslow Crescent, S.W.
2 Mount Edgecumbe, Earl of, Carlton Club, S.W.
1 Moysey, H. G.
2 Müller, Hugo, M.D., F.R.S., 13, Park Square East, Regent's Park, N.W.
1 Munro, Wellesley Herbert, Holmleigh, Sutton Court Road, Chiswick.
2 Murray, John A., 50A, Albemarle Street, W.
4 Myburgh, Mrs. Philip Albert, 31, Queen's Gate Gardens, S.W.

4 Nairn, Mrs. Edith
4 Nairne, Mrs., c/o Eland & Co., 5, Trafalgar Square, W.C.
2 Nalder, Howard, F., Mornington Lodge, W. Kensington, W.
2 Naper, James L., Loughcrew, Old Castle, Ireland.
4 Naylor, Richard C., Kilmarsh Hall, Northamptonshire.
2 Neeld, Lady, 71, Eaton Square, S.W. ; and Grittleton, Chippenham.
1 Nelson, Captain Charles G., R.N., Holme Lodge, Godalming.
2 Nelson, Mrs., Hanger Hill House, Ealing, W.
1 Newall, Mrs., Hare Hill, Littleborough, Lancashire.
1 Newman, George, 1, Broadway, Bromley.
1 Newton, Edgar, Hitchin.
* Newton, J., The Gardens, Inner Temple, E.C.
1 Newton, Mrs., 33, Holland Park, W.
2 Newton, Mrs. Belsize Court, Hampstead, N.W.
1 Nicholes, W. S., 8, Pownall Gardens, Hounslow.
2 Nicholl, Rev. Edward P., c/o Lieut.-Col. Nicholl, 40, Gloucester Place, Portman Square, W.
1 Nicholls, Samuel, Knighton House, Cazenove Road, Clapton, E.
1 Nicholson, George, A.L.S., Royal Gardens, Kew.
1 Nicholson, Dr. John, c/o Baron Sir Von Mueller, K.C.M.G., Melbourne.
2 Nicholson, James, Woodhatch, Reigate.
4 Nicholson, Samuel, 78, Holland Park, W.
4 Nix, John Hemmings, Tilgate, Crawley.
2 Nixon, Henry, 89, Cornwall Gardens, S.W.
4 Noakes, Benjamin, Hope Cottage, North Hill, Highgate, N.
2 Noble, C., Sunningdale Nursery, Bagshot.
2 Noble, John, Park Place, Henley-on-Thames.
2 Norbury, William Philip, Brentford.
1 Norman, Geo., The Gardens, Hatfield House, Herts.
1 North, Miss Marianne, Mount House, Alderley, Wotton-under-Edge.
4 North, The Hon. F. H., c3, Albany, Piccadilly, W.
2 Northbourne, Lord, Betteshanger, Sandwich.
2 Nutter, Mrs. Leigham Cottage, St. Julien Road, Streatham, S.W.
2 Nutting, W. J., 106, Southwark Street, S.E.

2 Oakes, H. Porteous, Nowton Court, Bury St. Edmunds.
2 O'Brien, James, Harrow-on-the-Hill.
1 Odell, John William, The Grove Gardens, Stanmore, Middlesex.

2 Ogle, Bertram Savile, Hill House, Steeple Aston, Oxford.
1 Oliver, F. W., D.Sc., F.L.S., Royal Gardens, Kew.
4 Oliverson, R., 37, Gloucester Square, W.
2 Onley, O. Savill, Stisted Hall, Braintree.
2 Ord, Mrs. Blackett, Whitfield Hall, Haydon Bridge, Carlisle.
1 Orlebar, R. R. B., J.P., Hinwick House, Wellingborough.
1 Osman, Charles, South Metropolitan District School, Sutton, Surrey.
1 Ouvrard, J., Child's Hill, Kilburn, N.W.
1 Owen, Miss, Knockmullen, Gorey, Ireland.
1 Owen, Robert, Floral Nursery, Maidenhead.
2 Owen, Wm., The Elms, Ealing, W.

2 Padday, William Charles Spencer, 65, Inverness Terrace, W.
2 Page, Colonel Chas. H., Dulwich House, Llandaff, Cardiff.
4 Page, Mrs. W. E.,
2 Page, Rev. William, B.A., The Manse, Upper Mall, Hammersmith, W.
1 Page-Roberts, Rev. F., The Rectory, Scole, Norfolk.
2 Paget, T. T., M.P., Humberstone, Leicester.
2 Paice, Geo., 9, Rivercourt Road, Hammersmith, W.
1 Pain, Henry, Burlington Road, Homebush, Sydney, N.S.W.
2 Paine, Charles C., Cedar House, Stamford Hill, N.
4 Palmer, Edward Howley, Bank of England, E.C.
4 Palmer, Greville Horsley, 72, Gresham House, Old Broad Street, E.C.
2 Palmer, W. W., Rutland Lodge, Shortlands, Kent.
1 Parker, Frank R., Kynaston Lodge, Harrow Weald.
1 Parker, John William, Ewell, Surrey.
1 Parker, Mrs., 35, Lee Terrace, Blackheath, S.E.
4 Parkyns, Sir Thomas G. A., Bart., Stapleton, Beckenham.
2 Parr, J. Charlton, Grappenhall Heyes, Warrington.
1 Parris, Mrs., 33, Matheson Road, West Kensington, W.; and Queenborough, Braintree, Essex.
2 Partridge, H. F., L.D.S., F.S.S., 43, Sussex Place, S.W.
1 Pascoe, Francis P., 1, Burlington Road, W.
2 Paul, George, The Old Nurseries, Cheshunt, Herts.
2 Paul, W., Waltham Cross.
2 Pawle, John D., 27, Canfield Gardens, South Hampstead, N.W.
1 Payne, Charles Harman, 60, Thorne Road, South Lambeth, S.W.
2 Payne, William, 78, Vassall Road, Brixton, S.W.
1 Paynter, Rev. Francis, Stoke Hill, Guildford.
4 Pearce, Alfred B., 39, Ludgate Hill, E.C.; and Tweed Bank, Sevenoaks Common.
2 Pears, A., Green Bank, Isleworth.
2 Pears, Mrs., Green Bank, Isleworth.
2 Pears, Miss, Green Bank, Isleworth.
1 Pearse, Dr. W. E. Grindley, 24, Bessborough Gardens, S.W.
4 Pearse, Major-General J. L., Lindesay, Ryde, Isle of Wight.
2 Pearson, C. E., Chilwell Nurseries, Nottingham.
2 Pearson, A. H., Chilwell Nurseries, Nottingham.

2 Pearson, H. J., Beeston, Nottingham.
2 Pease, Arthur, Hummersknott, Darlington.
4 Pease, Sir J. W., Bart., M.P., 24, Kensington Palace Gardens, W.
2 Peed, John, Mitcham Road, Streatham, S.W.
2 Peerless, G. R., Park Hill House, Park Hill, Clapham, S.W.
2 Pember, E. H., Q.C., Vicar's Hill, Lymington, Hants.
1 Pennell, Charles, Nurseryman, Lincoln.
2 Penzance, Lord, Eashing Park, Godalming.
2 Perry, Amos Isaac, Stamford Road, Page Green, Tottenham.
2 Peto, Lady, c/o Mrs. Baker, 14, Linden Gardens, W.
4 Phelps, W. John, Chestal, Dursley.
2 Philbrick, F. A., Q.C., Oldfield, Bickley, Kent.
2 Phillips, Sir Charles E. Gregg, Bart., 7, Kensington Palace Gardens, W.; and Picton Castle, Haverfordwest.
1 Phillips, Cornelius, Royal Torbay Nurseries, Torquay.
2 Phillimore, Charles Bagot, Hurley Manor House, Marlow.
1 Philpot, John, Morton Lodge, Wellesley Road, Gunnersbury, W.
1 Phillpotts, Rev. Canon, Porthgwidden, Devoran, R.S.O., Cornwall.
2 Phippen, George, Victoria Nurseries, 108, Broad Street, Reading.
4 Pickering, Mrs., 53, Green Street, Park Lane, W.
2 Pickersgill, William Cunliffe, Blendon Hall, Bexley, Kent.
2 Pike, Miss Florence, 4, The Grove, Highgate, N.
1 Pilcher, Charles, 84, Ringford Road, Wandsworth, S.W.
2 Pirie, Gordon, 97, Farringdon Street, E.C.
1 Pitman, Frederick, 22a, Queen Ann's Gate, Westminster, S.W.
1 Plowden, Lady, 5, Park Crescent, Portland Place, W.
2 Pochin, Henry D., Bodnant Hall, Eglwysbach, R.S.O., Denbighshire
2 Podger, William, Percy House, Isleworth.
1 Poë, John T. Bennett, 29, Ashley Place, S.W.
2 Poë, Mrs., J. T. Bennett, 29, Ashley Place, S.W.
2 Polak, James M., Butler's Farm, Peldon, Colchester.
2 Pollett, H. M., Fernside, Bickley, Kent.
4 Potter, T.B., M.P., 31, Courtfield Gardens, S.W.; and Pitnacree, Dunkeld, Scotland.
1 Potter, William, Oak Lodge, Green Lanes, Finsbury Park, N.
2 Potts, Joseph, North Cliff, Roker, Sunderland.
2 Poupart, John, West Park, Mortlake, S.W.
2 Poupart, William J., Twickenham.
2 Powell, Alfred Field, Woodfield, Ambleside Avenue, Streatham, S.W.
2 Powell, J. T. Templer, Stonecoombe, Kempshott Road, Streatham Common, S.W.
2 Powell, R. C., 8, Victoria Buildings, S.W.
1 Powell, Mrs. Henry Pryor, 133, Harley Street, W.
2 Powell, Thomas Wilde, 1, Draper's Gardens, Throgmorton Street, E.C.
1 Powys, Hon. Caroline Mary, 33, Great Cumberland Place, W.
2 Prance, Miss, Frognal, Hampstead, N.W.
1 Pratt, S. (Pratt Bros.), Fakenham.
2 Price, H. W., Fairmile, Cobham, Surrey.
1 Price, John W., Torrington Lodge, Barrowgate Road, Chiswick.

1 Primrose, H. W., C.S.I., 12, Whitehall Place, S.W.
2 Prior, F. W., Gordon House, Blackheath Park, S.E.
2 Prothero, William H., c/o Protheroe & Morris, 67 & 68, Cheapside, E.C.
4 Pryse, Sir Pryse, Bart., Gogerddan, Bow Street, Shrewsbury.
1 Pugh, James J. G., 2, Heath Road, Twickenham.
2 Pulteney, Miss Beatrice, Hargrave, Stanstead, Essex.
4 Pulteney, Rev. Arthur W., Ashley Rectory, Market Harborough.
2 Purvis, Peregrine, Winchmore Hill, N.
2 Pye, Hugh, Agricultural College, Dookie, Australia.
2 Pye-Smith, Arnold, 32, Queen Victoria Street, E C.

2 Raddenberry, John, Botanic Garden, Geelong, Victoria, Australia.
1 Rainger, Henry R., Heathcot, Heathfield Gardens, Chiswick.
2 Ramsay, Edward P., Australian Museum, Sydney, New South Wales.
4 Ramsden, Sir John William, Bart., M.P., 6, Upper Brook Street, W. ; and Buckden, Skipton.
1 Rance, J. George, Elmside, Bickley, Kent.
4 Ranken, Mrs. Bayne, 99, Eaton Square, S.W.
1 Ransom, Alfred, Benslow, Hitchin.
2 Rate, Mrs., Milton Court, Dorking.
2 Raphael, George C., 37, Portland Place, W. ; and Castle Hill, Englefield Green, Staines.
2 Rashleigh, Jonathan, 3, Cumberland Terrace, Regent's Park, N.W. ; and Menabilly, Par Station, Cornwall.
1 Rawlins, Joseph, Cirencester.
2 Rawlinson, Major-General Sir Henry, K.C.B., F.R.S., 2, Hill Street, Berkeley Square, W.
4 Rawson, Philip, Woodhurst, near Crawley.
2 Redpath, Peter, The Manor House, Chislehurst.
1 Read, Alfred S., Grittleton Gardens, Chippenham.
2 Reed, F. G., M.D., 46, Hertford Street, Mayfair, W.
4 Reeves, Major John, Wade Court, Havant, Hants.
4 Reeves, Miss Alice S., 36, Wynnstay Gardens, Kensington, W.
4 Reeves Miss Elizabeth, Cromer Lodge, Wimbledon.
4 Reeves, Miss Sarah Maria, Cromer Lodge, Wimbledon.
4 Reeves, Thomas J., 16, Essex Villas, Kensington, W.
2 Rendlesham, Lord, 4, Grosvenor Gardens, W. ; and Rendlesham Hall, Woodbridge.
2 Rennie, George, 16, Hyde Park Place, W.
2 Repton, G. W., 28, Curzon Street, W.
2 Repton, Lady J., 28, Curzon Street, W.
4 Revelstoke, Lord, 37, Charles Street, Berkeley Square, W.
4 Rhodes, Colonel Godfrey, Westhaugh, Pontefract.
4 Ricardo, Mortimer, Bure Homage, Christchurch.
1 Rich, Frank W, Royal Nurseries, Sandford, Churchill, Somerset.
1 Ricardo, Mrs. Francis, 44, Portman Square, W. ; and the Friary, Old Windsor.
*Richards, James, 82, Earl's Court Road, S.W.
2 Richards, Henry, 39, Longridge Road, Earl's Court, S.W.

2 Richards, W., 41, Wellington-street, W.C.
1 Richardson, H., 21, Goldsmith Street, Drury Lane, W.C.
4 Richardson, T. S., Hilders Court, Chiddingly, Hawkhurst, Sussex.
1 Richardson, William, Meadow Foundry Co., Limited, Mansfield.
1 Ridgewell, Henry, The Gardens, Histon Road, near Cambridge.
1 Riley, G. W., 6, Dulwich Road, Herne Hill.
2 Ringler-Thomson, H. E., 144, Lexham Gardens, S.W.
4 Ripon, Marquis of, 1, Carlton Gardens, S.W.
2 Rivers, T. F., Sawbridgeworth.
2 Robb, Mrs., 46, Rutland Gate, S.W.
2 Roberts, Arthur Troughton, Coed du, Mold.
1 Roberts, John, Fairholme, Victoria Road, Sunbury.
4 Roburts, H. C. Boyne House, Notting Hill, W,
1 Roberts, Hugh Goodman, Tower House, Hope, near Wold.
1 Roberts, Mrs., The Limes, Weybridge.
1 Robinson, Arthur, 8, Leadenhall Street, E.C.
1 Robinson, Richard, Clayton Villa, Fulwood, Lancashire.
2 Rochford, John, Nurseries, Page Green, Tottendam.
1 Rochford, Joseph, Turnford, Hoddesdon.
1 Rodda, Rev. Edwin, c/o Baron Sir F. Von Mueller, K.C.M.G., Melbourne
2 Rodocanachi, M. E., 66, Westbourne Terrace, W.
4 Rogers, John, Burnfoot, Preston Road, Brighton.
2 Rollo, The Lady, Ryde, Isle of Wight.
2 Rolls, J. A., The Hendre, Monmouthshire.
4 Romaine, W. G., C.B., The Priory, Old Windsor.
1 Rooke, P. H., Weybridge.
Rose, W. M.,
1 Ross, Charles, Welford Park, Newbury.
1 Ross, Frank, Pendell Court, Bletchingley.
2 Ross, Mrs., 38, Lowndes Street, S.W.
1 Rosser, Rev. C. A., 35, Barrowgate Road, Chiswick.
1 Rotch, Miss, 47, St. George's Road, S.W.
2 Rothschild, Baron Ferdinand de, Waddesdon Manor, Waddesdon, Aylesbury.
4 Rothschild, Lady Anthony de, 2, Grosvenor Place Houses, S.W.; and Aston Clinton, Tring.
4 Rothschild, Lord, 148, Piccadilly, W.
2 Rothschild, Miss Ada Alice de, 143, Piccadilly, W.; and Eythorpe, Aylesbury.
4 Rotton, John Francis, 3, Boltons, S.W.
2 Roupell, William, Harvey Lodge, Roupell Park, S.W.
1 Rouse, Edmund, Owasse, Barrowgate Road, Chiswick.
1 Routledge, Miss, 6, Rutland Road, Hammersmith, W.
4 Royds, Henry, 27, Albion Street, Hyde Park, W.
2 Royle, Mrs. Forbes, The Parsonage, Gipsy Hill, S.E.
1 Ruddell-Todd, Charles, 13, Woburn Square, W.C.
2 Ruding, Rogers, 157, Strand, W.C.
2 Rushout, Miss, 26, Onslow Square, S.W.
1 Rushworth, Norman, Beechfield, Walton-on-Thames.

2 Russell, Miss E. Phillipps, 9, St. Leonards Terrace, Chelsea College, S.W.
1 Russell, Mrs., Hatchford End, Cobham, Surrey.
4 Rutland, Duke of, St. Katherine's Lodge, Regent's Park, N.W.
1 Ryder, E., Orpington, Kent.
1 Ryder, Granville Richard, 60, Ennismore Gardens, S.W.
4 Ryder, Hon. Henry Dudley, 27, Queen's Gate Gardens, S.W.
1 Ryley, Reginald, Hazelmere, Chichester Road, Croydon.
1 Ryder, George W., Telford Lodge, Streatham Hill, S.W.
2 Ryder, Samuel, Junr., Sale, Manchester.

2 Sader-uddin Khan, M.,
2 Sale, Col. T. H., 90, Gloucester Terrace, Hyde Park, W.
4 Salt, Edward, Ferniehurst, Shipley, Leeds.
4 Salt, Dowager Lady, Broadoak, Clapham Common, S.W.
4 Salt, Sir William Henry, Bart., Maplewell, near Loughborough.
1 Salter, Alfred, 11, Pembroke Road, Kensington, W.
2 Saltmarsh, Thomas Joseph, Chelmsford, Essex.
4 Salvin, Osbert, F.R.S., Hawksfold, Fernhurst, Haslemere, Surrey.
2 Sampson, Edward, Henbury, Bristol.
4 Sandars Samuel, 7, De Vere Gardens, Kensington Palace, W.; and Chesterford Park, Saffron Walden.
4 Sandbach, H. R., Hafodunos, Llanwrst; and 10, Prince's Gate, S.W.
4 Sandbach, W. R., 16, Prince's Gate, S.W.
2 Sandeman, Albert G., 32, Grosvenor Street, W.
4 Sandeman, Mrs. A. G., 32, Grosvenor Street, W.
4 Sandeman, Col. John G., 24, Cambridge Square, W.
2 Sandeman, George G., 34, Grosvenor Gardens, S.W.
2 Sander, F., St. Albans.
1 Sandberg, Christer P., 19, Great George Street, Westminster, S.W.
2 Sanderson, H. J., M.D., 26, Upper Berkeley Street, Portman Square, W.
4 Sassoon, R. D., 1, Belgrave Square, S.W.
2 Satchell, Dr. Walter A., 4, Rosslyn Gardens, Hampstead, N.W.
1 Saunders, Charles B., St. Saviour's, Jersey.
2 Saunders, Frederick G., Caversham Grove, Oxfordshire.
4 Saunders, H. C., Q.C., 1, Bolton Gardens, S.W.
1 Saunders, John A., 40, Whimple Street, Plymouth.
1 Saunders, Joshua, Sutton House, Clifton Down, Bristol.
2 Saunders, Thomas Bush, Priory, Bradford-on-Avon.
2 Saunders, Wm. Fred, F.L.S., Lloyds', E.C.
2 Savage, Mrs. Henry, 24, Kensington Park Road, W.
4 Schenley, Mrs., 14, Prince's Gate, S.W.
4 Schroder, Baron, The Dell, Staines.
1 Scarth, Leveson, Union Club, Trafalgar Square; and Raveley, Bournemouth.
1 Scott, Henry, Eldon, St. George's Avenue, Weybridge.
1 Scott, John, Albyfield, Bickley.
2 Scott, Mrs. C. B., Ottershaw, Bournemouth.
1 Scott, Philip, Newlands, Park Hill, Bexley, Kent.
2 Scott, Professor D. H., M.A., Ph.D., The Laurels, Bickley.

1 SCOTT, R., The Holme, Regent's Park, N.W.
2 SCOTT, RONALD A., The Elms, Acton Hill, W.
1 SCRASE-DICKINS, C. R., Coolhurst, Horsham.
4 SEAFIELD, Countess of, 61, Onslow Gardens, S.W.
1 SECRETAN, ARCHIBALD HAMILTON, Weybridge Heath.
1 SEEGER, JAMES, 112, Lordship Lane, Dulwich, S.E.
4 SEFTON, The Earl of, K.G., 37, Belgrave Square, S.W.
1 SERPELL, EFFINGHAM WILSON, 21, Cornwall Street, Plymouth.
1 SEWARD, W., The Lindens, Church Road, Willesden, N.W.
1 SEWELL, ARTHUR, Lauriston, Grange Road, Ealing.
2 SEWELL, FREDERIC, 38, Redcliffe Square, S.W.
2 SEWELL, Mrs., 38, Redcliffe Square, S.W.
2 SEYMOUR, Mrs. Alfred, 5, Chesterfield Gardens, W.; and Norton Daventry.
1 SHARMAN, C. H., 69, Houston Road, Forest Hill, S.E.
4 SHARP, Lieut-Colonel W. E., Cintra, Shanklin, Isle of Wight.
2 SHARPE, CHARLES, Sleaford.
1 SHARPE, RICHARD BOWDLER, Lyndhurst, Barrowgate Road, Chiswick.
4 SHAW, JOHN, 29, Oxford Street, Manchester.
1 SHAW, WM. THOS., Algehr, Surbiton.
2 SHAYLER, GEORGE, 176, St. John Street Road, E.C.
4 SHEDDEN, Thomas, 47, Cromwell Road West, S.W.
1 SHELDON, THOMAS, Rycote Lodge, Clevedon.
1 SHEPPARD, H. A. GRAHAM, Rednoch, Stirling, N.B.
4 SHEPPARD, Mrs. EDGAR, 8, Redcliffe Villas, Surbiton.
2 SHEPPARD, SAMUEL GURNEY, 28, Threadneedle Street, E.C.
2 SHERBORNE, Right Hon. Lord, 2, St. James's Place, S.W.
2 SHERBROOKE, Right Hon. Viscountess, 34, Lowndes Square, S.W.
2 SHERWOOD, N. N., Dunedin, Streatham Hill, S.W.
1 SHIPLEY, ALFRED, Elmfield, Westbury-on-Trym, Bristol.
2 SHUTTLEWORTH, E., 191, Park Road, Clapham, S.W.
2 SIBRAY, HENRY, Handsworth Nurseries, Sheffield.
1 SIBSON, Mrs., East Acton.
2 SIER, Rev. T., D.C.L., 11, St. James's Square, S.W.
2 SILLEM, A., Laurie Park, Sydenham.
1 SILVER, J. W., Streatham and Norbury Nurseries, Streatham, S.W.
2 SILVER, Mrs., Beechcroft, Oatlands Park, Weybridge.
2 SILVER, S W., 3, York Gate, Regent's Park, N.W.; and The Benhams, Letcombe Regis, Wantage, Berks.
2 SILVERLOCK, CHARLES, Victoria Embankment, W.C.
1 SIMS, GEORGE JNO., 7, Market Buildings, William Street, Melbourne.
SIMONS, Dr. CHARLES N, Bay Street, Brighton, Melbourne.
1 SIMMONS, CHAS. HENRY, Endlewick, Eastbourne.
4 SIMPSON, GEORGE, Wray Park, Reigate.
2 SIMPSON, HARRY, West House, Clapham Common, S.W.
4 SKEWES-COX, THOS., Bramleigh, Richmond Hill, Surrey.
2 SLADE, JAMES BENJAMIN, 67 and 68, Cheapside, E.C.
4 SLOANE, FRANCIS J., Palazzo Bourtourlini, Florence.
2 SLOPER, GERARD ORBY, Westrop House, Highworth, Wilts.

1 Smale, W. B., 30, Fleet Street, Torquay.
2 Smee, A. H., The Grange, Hackbridge, Surrey.
1 Smith, Archibald Seth, Silvermere, Cobham.
2 Smith, Captain Philip, Guards' Club, Pall Mall, S.W.
2 Smith, Charles H., Ravenswood, Wokingham.
4 Smith, Eric Carrington, 19, Lennox Gardens, Pont Street, S.W.
1 Smith, Frank, Griffin Brewery, Chiswick.
1 Smith, F. J., 10, Silchester Road, St. Leonards-on-Sea.
2 Smith, Henry B., Brockenhurst, Hants.
2 Smith, Henry Etherington, Ashby-de-la-Zouch.
2 Smith, Hon. Mrs. Jervoise, 23, Hans Place, S.W.
1 Smith, James, Mentmore, Leighton Buzzard.
2 Smith, Mrs.
4 Smith, Mrs. Kincaid, Wood End, Chichester.
2 Smith, Martin Ridley, 13, Upper Belgrave Street, S.W.; and Hayes Common, Beckenham.
1 Smith, Professor Henry, St. George's Lodge, Weybridge.
4 Smith, Right Hon. W. Henry, M.P., 3, Grosvenor Place, S.W.
2 Smith, S. J., Bon Marché, Brixton, S.W.
2 Smith, Thomas Algernon Dorrien, Tresco Abbey, Isle of Scilly, Cornwall.
1 Smith, W., The Links, Bishop's Stortford.
2 Snaith, Henry, 4, St. James's Place, S.W.
4 Somes, Mrs., Glenshero, Wimbledon Park.
1 Somerset, Raglan, G. H., 2, Morpeth Terrace, Victoria Street, S.W.
1 Soper, William, 307, Clapham Road, S.W.
1 Soutar, Samuel, 17, Heathfield Terrace, Chiswick.
1 South, Ernest Hartland, Namur House, Caple Road, Harlesden, N.W.
4 Southby, Mrs. R. F., Lyndhurst, Shanklin, Isle of Wight.
2 Speer, Mrs. Alfred Miles, 13, Park Crescent, Portland Place, W.
2 Spencer, The Countess, Spencer House, St. James's, S.W.
4 Spencer, The Earl, K.G., Spencer House, St. James's, S.W.
1 Spuling Aubrey, The Nest, Vanburgh Park, Blackheath.
2 Squire, Mrs., Fir Grove, Motspur Park, Malden, Surrey.
4 Stanhope, J. Banks, Carlton Club, S.W.
2 Stanhope, Walter T. W. Spencer,
4 Stanley, Edward James, 14, Grosvenor Square, W.
2 Stanley, Hon. Mrs. E. J., 14, Grosvenor Square, W.
2 Stanton, James Thomas, The Leaze, Stonehouse, Gloucestershire.
2 Stapleton, Mrs. John, 31, Camden Grove, Kensington.
2 Stedman, Mrs., 21, Heathfield Terrace, Turnham Green.
1 Steel, George, Heatherslaw, Cornhill-on-Tweed.
2 Steinmann, Paul, Faircroft, King's Road, Richmond, Surrey.
4 Stephens, Mrs. Lyne, Roehampton, S.W.
2 Stern, Baroness de, 4, Hyde Park Gate, W.
2 Sterry, Rev. Francis, Poltimore Rectory, Exeter.
2 Stevens, G., St. John's Nursery, Putney, S.W.
1 Stevens, Henry, Addlestone Lodge, Addlestone, Surrey.
4 Stewart, Alexander John Robert, 12, Palmeira Square, Brighton.

4 STEWART, CHARLES POYNTZ, Oxford and Cambridge Club, S.W.
4 STEWART, H. G. MURRAY, Cally, Gatehouse, Scotland.
2 STEWART, Hon. Mrs. ALEX., 36, Lennox Gardens, S.W.
4 STEWART, J. A. SHAW, 71, Eaton Place, S.W.
2 STEWART, Miss E., 99, Cambridge Gardens, Notting Hill, W.
4 STEWART, The Lady ISABELLA, 12, Palmeira Square, Brighton.
1 STILL, STAFFORD F., Lismore, Woodside, Wimbledon Park.
4 STIRLING, J. C., 19, Lorne Road, Finsbury Park.
2 STOCKER, Dr., Peckham House, Peckham.
2 STOCKER, JOHN PALMER, 93, Oxford Terrace, W.
1 STORRIE, DAVID, 96, Nethergate, Dundee.
2 STRACHAN, JOSIAH G., Farmhill Park, Stroud.
2 STRACHEY, CHARLES, 37, Cornwall Gardens, S.W.
2 STRANGE, Mrs., 6, Elvaston Place, S.W.
4 STRATHMORE, The Earl of, 41, Queen's Gate Gardens, S.W.
4 STRICKLAND, Sir CHARLES W., Bart., Hildenley, Malton.
4 STUART, C. ESME, Addington House, Addington Road, Reading.
4 STUART, CHARLES POLE, Sandy Mount House, Woburn Sands, Woburn.
4 STUART, Colonel WILLIAM, 36, Hill Street, W.; and Tempsford Hall, Sandy, Beds.
2 STUART, Mrs., Regent Terrace, Edinburgh.
2 STUBBS, S., F.L.S., &c., 263, Hampstead Road, N.W.
2 STUDD, ALNOD E., Greylands, Melton, Suffolk.
2 STUDD, Mrs., 4, Royal Crescent, Bath.
2 STURDY, THOMAS, The Wick, Branksome, Bournemouth.
1 SUCH, E. F., Rosary Gardens, Maidenhead.
2 SUDELEY, Lord, 44, Grosvenor Gardens, S.W.
2 SULIVAN, Miss, Broom House, Fulham, S.W.
2 SURTEES, Lady, 10, Green Street, Grosvenor Square, W.
2 SUTTON, ARTHUR, W., F.L.S., Reading.
2 SUTTON, HERBERT, Reading.
2 SUTTON, LEONARD G., Reading.
2 SUTTON, MARTIN J., Dyson's Wood, Caversham, near Reading.
1 SWEET, EDWARD W., Arbor Grove, Chertsey.
1 SWEET, JAMES, New Lodge, Whetstone, N.
2 SWINBURNE, Miss, 11, Lowndes Square, S.W.
1 SYDENHAM, ROBT., Roseleigh, 190, Bristol Road, Birmingham.
4 SYDNEY, The Earl, G.C.B., Frognal, Foot's Cray, Kent.
2 SYKES, CHRISTOPHER, M.P., Brantingham, Brough.
2 SYKES, T. HARDCASTLE, Cringle, Cheadle, Cheshire.
1 SYMONS, G. J., F.R.S., 62, Camden Square, N.W.

1 TABER, GEORGE, Rivenhall, near Witham, Essex.
1 TADMAN, F. GEORGE, 13, Milton Terrace, Anlaby Road, Hull.
1 TAIT, ALFRED W., 115, Entre Quintas, Oporto, Portugal.
2 TALBOT, Lady E., 15, Cromwell Road, S.W.
1 TALLENTIRE, HENRY JOHN, Sherborne Lodge, South Norwood Hill.
1 TALLERMAN, D., 50, Redcliffe Road, S.W.
2 TATE, HENRY, Jnr., Allerton Beeches, Liverpool.
2 TATHAM, Mrs. CHARLES, 14, Cleveland Gardens, W.

2 Taunton, The Lady, 27, Belgrave Square, S.W.
2 Tautz, Frederick G., 289, Goldhawk Road, W.
2 Taviner, G. D., Coburg Place, Bayswater Road, W.
1 Tayler, W., Osborn Nursery, Hampton, Middlesex.
1 Taylor, Frederick, Wayford House, Grosvenor Road, Gunnersbury.
2 Taylor, J. O. Howard, Thorpe, Norwich.
4 Taylor, John Edward, 20, Kensington Palace Gardens, W.; and Rusholme, Manchester.
1 Taylor, Miss Emma, Conifer Hill, Starston, Harleston, Norfolk.
4 Temple, James William, Leyswood, Groombridge, near Tunbridge Wells; and 74, Portland Place, W.
2 Terry, Captain Courtenay F., Shrublands, Hersham, near Walton-on-Thames.
2 Terry, Mrs. Courtenay F., Shrublands, Hersham, near Walton-on-Thames.
1 Thain, Miss, 5, Myrtle Terrace, High Road, Chiswick.
4 Thomas, Charles Evan, The Gnoll, Neath, Glamorganshire.
2 Thomas, J. B., Covent Garden, W.C.
1 Thomas, Jocelyn H. W., Belmont, Carlow, Ireland.
1 Thomas, Owen, The Gardens, Chatsworth, near Chesterfield.
2 Thomas, W. B., 52, Wimpole Street, Cavendish Square, W.
2 Thompson, Jos., Riversdale, Wilmslow, near Manchester.
4 Thompson, Mrs., 41, Bryanston Square, W.
2 Thompson, S. H., Thingwall Hall, Liverpool.
2 Thompson, Thomas, Stream, Betchworth.
1 Thompson, Wm., Tavern Street, Ipswich.
2 Thomson, James, Hensill, Hawkhurst, Kent.
2 Thomson, Robert, 20, High Street, Birmingham.
1 Thomson, W. K., 81, Elizabeth Street, Melbourne.
2 Thomson, William J., Ghyllbank, St. Helens, Lancashire.
2 Thorne, Augustus, 66, Old Broad Street, E.C.
2 Thornhill, Edmund Bensley, Geldeston, Beccles.
2 Throckmorton, Sir Wm., Bart, Buckland, Farringdon, Berks.
2 Thurlow, Major, Hampton Lodge, Farnham, Surrey.
4 Thwaites, Mrs. Daniel, Addison Lodge, Kensington, W.
2 Thynne, Lady Ulrica, 30, Grosvenor Gardens, S.W.
2 Tiarks, H. F., Foxbury, Chislehurst.
2 Tidd, George, 11, Collingham Road, S. Kensington, S.W.
2 Tidswell, Richard H., 49, Wilton Crescent, S.W.
2 Todd, Richard A., Hill House, Streatley, Reading.
2 Toope, Charles, Stepney Square, Stepney, E.
4 Tollemache, Lord, Helmingham Hall, Suffolk.
1 Tonks, Edmund, Packwood, Knowle, Birmingham.
2 Townend, Arthur P., Chipstead, Chislehurst Common.
2 Townend, Thomas, Glenrose, Chislehurst.
4 Trafford, Sir H. de, Bart., Trafford Park, Manchester.
2 Treble, John, 15, Marlborough Place, St. John's Wood, N.W.
2 Tredegar, The Lord, 39, Portman Square. W.
4 Trench, Colonel Hon. William Le Poer, R.E., 3, Hyde Park Gardens, W.

1 Treseder, John G., 19, Royal Arcade, Sydney, N.S.W.
2 Trevelyan, The Lady, 67, Eaton Square, S.W.
2 Trevor, Mrs. C. Cecil, 11, Astwood Road, South Kensington, S.W.
4 Trotter, Hon. Mrs. J. M., Collinton House, Slateford, Edinburgh.
4 Trower, Mrs. George S., 81, Harcourt Terrace, S.W.
4 Tufnell, William M., 6, Eaton Square, S.W.; and Hatfield Place, Essex.
1 Tulk, J. A., Cowley House, Chertsey.
1 Tulk, Mrs., Cowley House, Chertsey.
2 Turnbull, Mrs., Rose Hill, Abbot's Langley, Herts.
2 Turner, Cyril J., Tiffield, Hurst Road, Bexley.
1 Turner, Fred., Hyde Park, Sydney, N. S. Wales
2 Turner, Harry, Royal Nurseries, Slough.
1 Turner, Mrs., Avishayes, Gunnersbury, W.
4 Tweedmouth, Lord, Brook House, Park Lane, W.
4 Twining, Samuel Harvey, 14, Gloucester Square, W.
1 Tylden-Pattenson, Captain W. H., Dashmonden, Staplehurst.
4 Tyler, Sir James, Pine House, Holloway, N.
2 Tyrwhitt, Rev. Beauchamp St. John, M.A., Wispington Vicarage, Horncastle.
2 Tyrwhitt-Drake, Miss, 32, Elm Park Gardens, S.W.

2 Unite, John, 291, Edgware Road, W.
1 Unwin, William, Covent Gerden, W.C.
2 Usborne, Mrs. Thomas, Writtle, near Chelmsford.
2 Ussher, Arthur Keily, Villa Silvosa, Cannes, France.

2 Vahl, A. de, 79, Lancaster Gate, S.W.
2 Vaizey, John Robert, Attwoods, Halstead, Essex.
1 Vallance, John, Westholm, Ealing Common.
2 Valpy, Robert Arthur, 10, Bina Gardens, S.W.
2 Vanner, William, Camden Wood, Chislehurst.
4 Vaughan, H., 28, Cumberland Terrace, Regent's Park, N.W.
1 Veitch, Arthur J., Royal Exotic Nursery, Chelsea, S.W.
2 Veitch, Harry J., F.L.S., Royal Exotic Nursery, King's Road, Chelsea, S.W.
1 Veitch, James Herbert, Royal Exotic Nursery, Chelsea, S.W.
1 Veitch, Mrs. Harry, 34, Redcliffe Gardens, S.W.
2 Veitch, P. C. M., The Royal Nurseries, New North Road, Exeter.
2 Vernon, Lady, Sudbury Hall, Derby.
2 Vertegans, R. H., Edgbaston, Birmingham.
2 Vicars, Edward F., The Danes, Little Berkhamsted.
2 Vickers, Henry Edward, Heath Cottage, Sydenham Road North. Croydon.
2 Vilmorin, Henry de, Quai de la Mégisserie, Paris.
2 Vilmorin, Maurice de, 4, Rue de Solferino, Paris.
1 Vince, Alfred, The Gardens, Springhurst, Bickley.
1 Vines, Professor Sidney H., F.R.S., Fairacres, Oxford.
1 Vincent, Mrs., Malton House, Wellesley Road, Gunnersbury, W.
2 Vivian, W. Graham, 7, Belgrave Square, S.W.; and Singleton, Swansea.

2 Wadham, William H., 61, Bishop's Road, W.
4 Waggett, Dr., Perivale, Bournemouth; and Union Club, Trafalgar Square, W.C.
1 Wakefield, J. C., 25, Holland Villas Road, Kensington, W.
2 Walford, Herbert H., 6, Cornwall Gardens, S.W.
4 Walker, Edward L., Sarisbury Court, Sarisbury, Southampton.
4 Walker, George, Eastwood, Nottingham.
4 Walker, Henry, Perdiswell, Worcester.
2 Walker, J., Ham Common, Surrey.
1 Walker, John, Thame, Oxon.
4 Walker, Philip A., 79, Onslow Gardens, S.W.
4 Walker, Rev. Joseph, Averham Rectory, Newark.
4 Walker, Thomas E., Studley Castle, Warwickshire.
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4 Wallace, L. A., 6, Hyde Park Gardens, W.
4 Wallace, Sir Richard, Bart., Hertford House, Manchester Square, W.
1 Wallis, Harry, Cornsland, Brentwood.
1 Wallroth, Miss E., Woodclyffe, Chislehurst.
1 Walshaw, George, The Nurseries, Scarboro'.
4 Walter, Captain Sir Edward, Exchange Court, 419, Strand, W.C.
1 Walter, William, Ashley, Bickley, Kent.
1 Walton, James, Eastbourne Nursery, Eltham Road, Lee.
4 Wantage, Lord, K.C.B., V.C., 2, Carlton Gardens, S.W.
4 Wantage, Lady, 2, Carlton Gardens, S.W.
4 Warburton, J. W., Campsbourne, Lower Road, Richmond, Surrey.
1 Ward, H. Marshall, M.A., F.L,S., Forest School, Cooper's Hill, Surrey.
1 Ward, T. C., 32, Sydenham Park, S.E.
1 Ward, W. O,. Ramsey, Harwich.
2 Ware, Thomas S., Hale Farm Nursery, Tottenham.
2 Ware, Walter T., Inglescombe Nurseries, Bath.
2 Warner, Charles Robert, The Abbey Nurseries, Leicester.
1 Warner, Robert, Broomfield, near Chelmsford.
1 Warren, Augustus W., The Firs, Crawley Road, Horsham.
2 Warren, William, Holly Lodge, Isleworth.
2 Warren, John, 95, Lancaster Gate, W.
2 Waterford, Louisa, Marchioness of, Ford Castle, Northumberland.
1 Waterhouse, Theodore, 4, Chester Place, Hyde Park Square, W.
4 Waterlow, W. B., 5, Storey's Gate, St. James's Park, S.W.
2 Watkins, A., 13, Exeter Street, Strand.
1 Watkins, John, Pomona Farm, Withington, Hereford.
4 Watson, Barclay Fielder, 7, St. James's Terrace, Paddington, W.
4 Watson, J. P., 43, Shepherd's Bush Green, W.
1 Watson, William, Royal Gardens, Kew.
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2 Watts, J. J., 4, Halkin Street, W.; and Whistley, near Devizes, Wilts.
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2 Webb, Henry, Redstone Manor House, Redhill.

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2 Webber, James, Centre Row, Covent Garden, W.C.
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2 Wellington, Duke of, Apsley House, Picadilly, W. ; and Conholt Park, Andover.
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4 Westminster, The Duke of, K.G., Grosvenor House, W.
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2 White, R. B., Arddarroch, Gareloch Head, N.B.
1 White, Miss, St. Michael's Hall, Brighton.
2 White, Wm. Nicholas, Covent Garden, W.C.
1 Whitehead, Edward G., Devon Lodge, Kingston Road, New Malden.
1 Whiter, James Salter, Sunny Bank, Wallington.
1 Whitfield, George C., Torr's Vale, Ilfracombe.
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1 Whiting, Noel, Lavender Sweep, Wandsworth, S.W.
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1 Whitley, John R., Heathside, Wimbledon Common.
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1 Whitley, Wm., Barrow House, Long Ditton.
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2 Wigan, Frederick, East Sheen, Mortlake, S.W.
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2 Williams, Charles Henry, Roath Court, near Cardiff.
1 Williams, Henry, Paradise Nursery, Holloway, N.

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2 Windley, John William, Mansfield Road, Nottingham.
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1 Wintle, Chas. F., Roseville, 9, Dewhurst Road, West Kensington Park, W.
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4 Wollaston, Francis Tullie, Dovers, Reigate.
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2 Wyndham, Henry, Thornton Lodge, Thornton Heath, Surrey.
1 Wynne, B., 17, Catherine Street, Covent Garden, W.C.

2 Wynne, Mrs. Lloyd, 7, Eaton Place, S.W.; and Coed Coch, Abergele, Denbighshire.
2 Wythes, George, The Gardens, Syon House, Brentford.

4 Yeld, Mrs. G. Anson, Crayton Lodge, Milverton, Leamington.
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1 Youle, Frederick, 4, Montague Street, Russell Street, W.C.
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1 Young, Major-General R.E., 7, Bath Road, Bedford Park, Chiswick.
2 Young, Reginald, Fringilla, Linnet Lane, Liverpool.
2 Young, Mrs., Summerleigh, Upper Teddington.
2 Young, Mrs. William, Stanhill Court, Charlwood, Surrey.

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Harris, James.
Cornish, Fredk., The Gardens, Joldwynds, Dorking.
Cummins, G. W., The Grange Gardens, Wallington.
Gall, R. B., The Gardens, Child's Hill House, Hampstead, N.W.
Gregory, John, The Gardens, Hazelbeech Hall, Northampton.
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